

SHORTAGE?

A4000 Towers, Amiga Workhorse, in short supply!

# Amazing / AMIGA

COMPUTING™  
Your Original AMIGA® Monthly Resource

Volume 13 No. 9 September 1998  
US \$3.95 Canada \$5.95

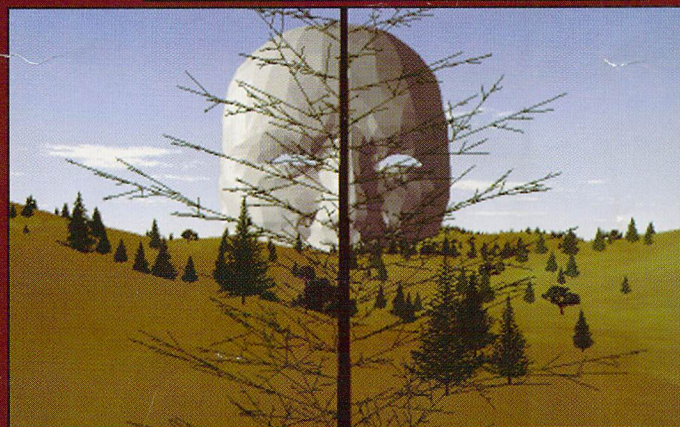
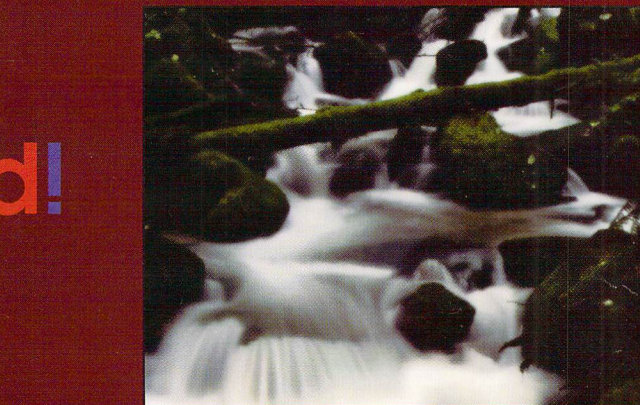
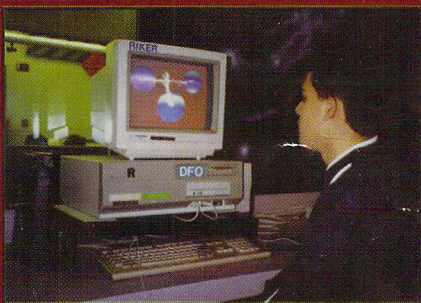
## ZAP! You're Cartoonized!

### Amiga Hardware Project: Controller Conversion

Modify a new controller to  
replace your old Joystick!!

## Cloud Castles

Data manipulation=unique graphics!



### Back To School with AMIGA

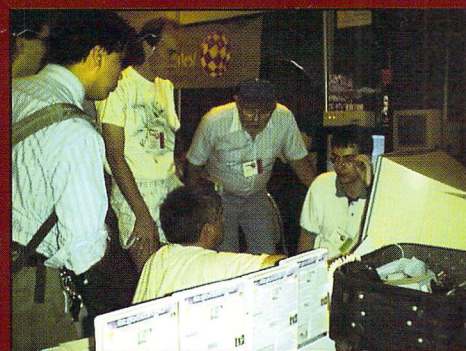
Amigas at Wheat Ridge Middle School

### Genetic Species Review

### Aladdin4D: Modeling techniques

### Unix: Understanding The Unix Commands

PLUS!: JavaScripting, VersionWB, choosing  
the best icons, improving  
your GUI, and more!



## AmiWest '98



### Paint Cut-Paper Portraits

Create DTP and Web characters with special commands.

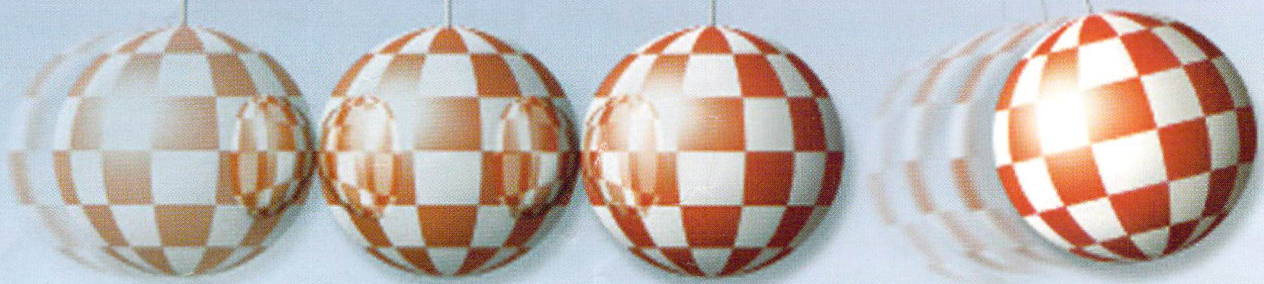






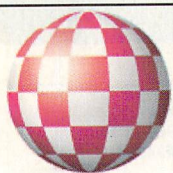
# AMIGA<sup>®</sup>

**Keep  
the momentum  
going**

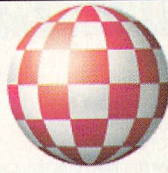


Sioux City ( USA) ■ Langen • Braunschweig (Germany)



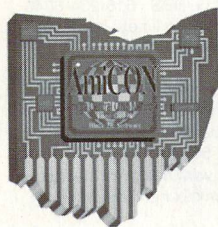


# AMIGA



## Community Bulletin Board

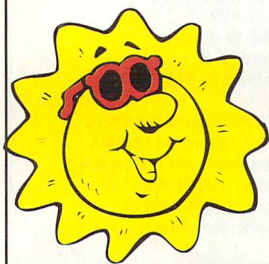
Amiga Users , don't miss these  
important dates!



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[www.amiga-stl.com](http://www.amiga-stl.com)

### Don't forget your user groups!

Please visit the representatives from the **User Group Network**, **Team Amiga**, and the **Jay Minor Society**.  
They are there to help and bring the Amiga  
Community together.




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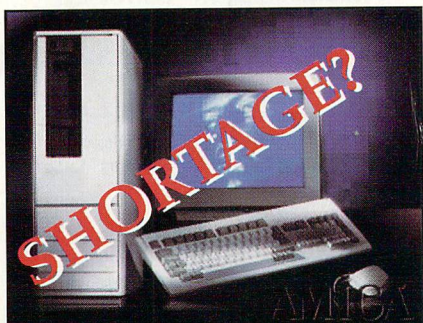
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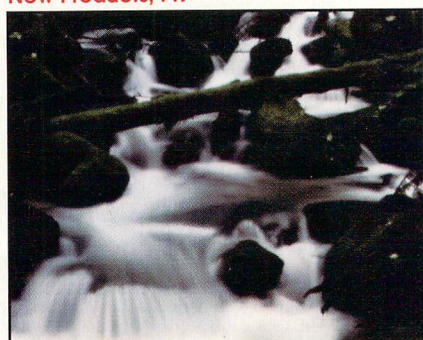
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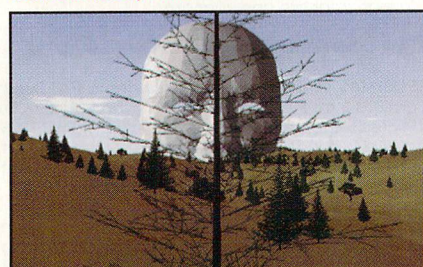
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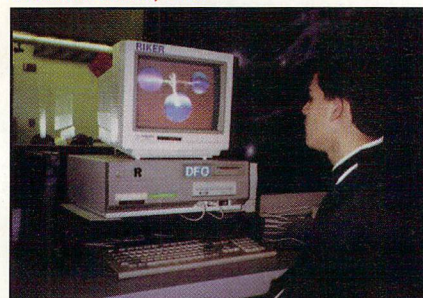
New Products, P.9



Cartoonized, P.12



Cloud Castles, P.13



Back to School with the Amiga, P.17



DPaint Cut-Paper Portraits, P.38

## 9 New Products

& other neat stuff

A4000 Tower Shortage, National's PCMCIA solution, Randomize's Amiga-PC network, & AmigaZone is sale priced!

## 12 ZAP! You're Cartoonized!

by Nick Cook

A hideous name for an interesting effect.

## 13 Cloud Castles

by R. Shamms Mortier

Data manipulation with Amiga software to create artistic representations and flights of fantasy for pure art and more.

## 17 Back to School with AMIGA

Special Report by R. Joe Obrin

The Wheat Ridge Middle School of Denver uses the Amiga for art and more.

## 20 Aladdin4D:

Cutting Torch Animation Project

by Dave Matthews

Part 2: Modeling the torch head.

## 26 This Old Workbench: Episode 21

Building the Perfect Workbench Part 4

by Dave Matthews

Staying up to date on the latest versions can be tricky without VersionWB, best icons, improving the GUI and more.

## 30 On Line

by Rob Hays

JavaScript: updating a previous script and learning lots of new tricks on the way.

## 34 Unix on the Amiga Part 4

by Antonello De Santis

Part 4: Understanding the different Unix commands and its unique file system.

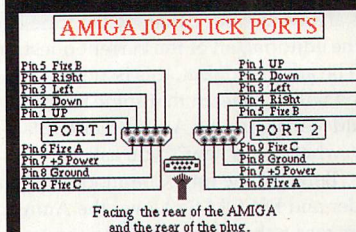
## 38 DPaint Cut-Paper Portraits

by R. Shamms Mortier

Use commands in DPaint to create your own caricatures for DTP and web use.

## 48 AmiWest '98

AmiWest, three days of seminars, speeches, prizes & more!



## 42 Hardware Project: Alternative Joy on the Amiga

by George M. McDonald

Replace that old joystick with one of those new controllers.



## 44 Genetic Species

by Jake Frederick

In the world of complex 3D engines, getting a great game to market takes more than just faster graphics - and Genetic Species delivers that and more!

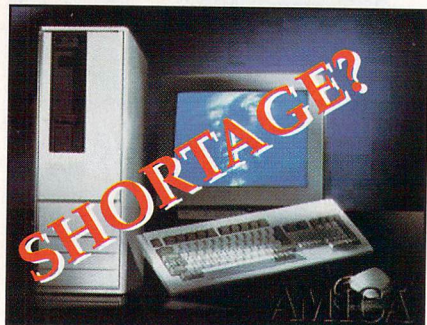
## DEPARTMENTS

Editorial	4
FeedBack	6
Index of Advertisers	40



# Editorial Content

## The A4000 Shortage How Bad is it?



It is always my hope that, by the time I get to the editorial, all of the current questions will be answered. But, this issue, we are faced with a concern that some believe could jeopardize the Amiga marketplace. "So, what else is new?" you ask.

Between the time Commodore went under and ESCOM took over the Amiga, there was a shortage of A4000 computers. This shortage caused the price of used and refurbished equipment to rise to \$4,000 dollars and more from the already hefty price in the mid \$2,000 range. Machines were in short supply and everyone hung onto their A4000s as if they were gold. The problem was, they weren't sure if they could get another one, or even have theirs fixed.

Ever since ESCOM purchased the Amiga technology from the Commodore liquidators, we have had a supply of A4000 Towers. QuikPak has produced a steady inventory from material supplied from Commodore's original inventory and from new stock. For some time, QuikPak has been battling over the rightful ownership of this inventory with the German liquidator for ESCOM. The exact nature of the argument has not been released for publication, however, both sides believe they have a just claim to the material.

This argument has slowly progressed through the courts and now an injunction has been filed by the German liquidator, Bernhard Hembach, which restrains QuikPak from shipping any more A4000 computers until a settlement can be reached.

### Here we go again?

Most of us who lived through the first bankruptcy with Commodore, understand how long such a restriction could affect the market. Courts run slowly, at least slower than marketplaces and technology. The continued supply of A4000 machines is essential to the everyday needs of this market.

It isn't how many A4000s are being made, it is the perception of their absence that may be our worst enemy. Without A4000s, the Amiga line is without a high-end computer. While Amiga International still has a good supply of Amiga 1200s for sale, the fact that consumers do not see a top end machine automatically hinders our market—whether they would have wanted that machine or not!

### Solutions!

However, we are a different market today than we were four years ago. Today, companies such as Randomize, Access, Micronik, phase5, and others are putting together systems and alternatives. While some of these solutions require the same material that is now under an injunction, some systems utilize the abundant A1200 to satisfy speed and power needs.

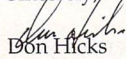
As of this writing, Randomize has just announced a package with A1200, accelerator, and more which makes a very substantial system for any graphic artist. Code named Genesis, Randomize's packaged system retails for \$2549.95 CDN or \$1759.95 US. You can check out this system at their website, <http://www.randomize.com/genalpha.html>, or call their order line at 1 888 RANDOMIZE (1 888 726-3664).

I am sure that Randomize has been working on this solution for a while. However, I was pleased to see their release appear quickly after the QuikPak news.

Today, unlike four years ago, someone owns the Amiga. Amiga Inc. and Amiga International have a vested interest in seeing this market continue as they produce the next level of the Amiga. Jeff Schindler and Bill McEwen have both publicly stated that the strength of the Amiga rests on its operating system, its user base, and its developer community.

While no one has made any statements either publicly or otherwise, it is obvious that it is in the best interest of everyone to have a solution quickly. Whether that is with QuikPak and Mr. Hembach, or with any of the other players is yet to be seen. But, you can be assured, everyone who has access to a solution, will be working on one.

Sincerely,

  
Don Hicks  
Managing Editor

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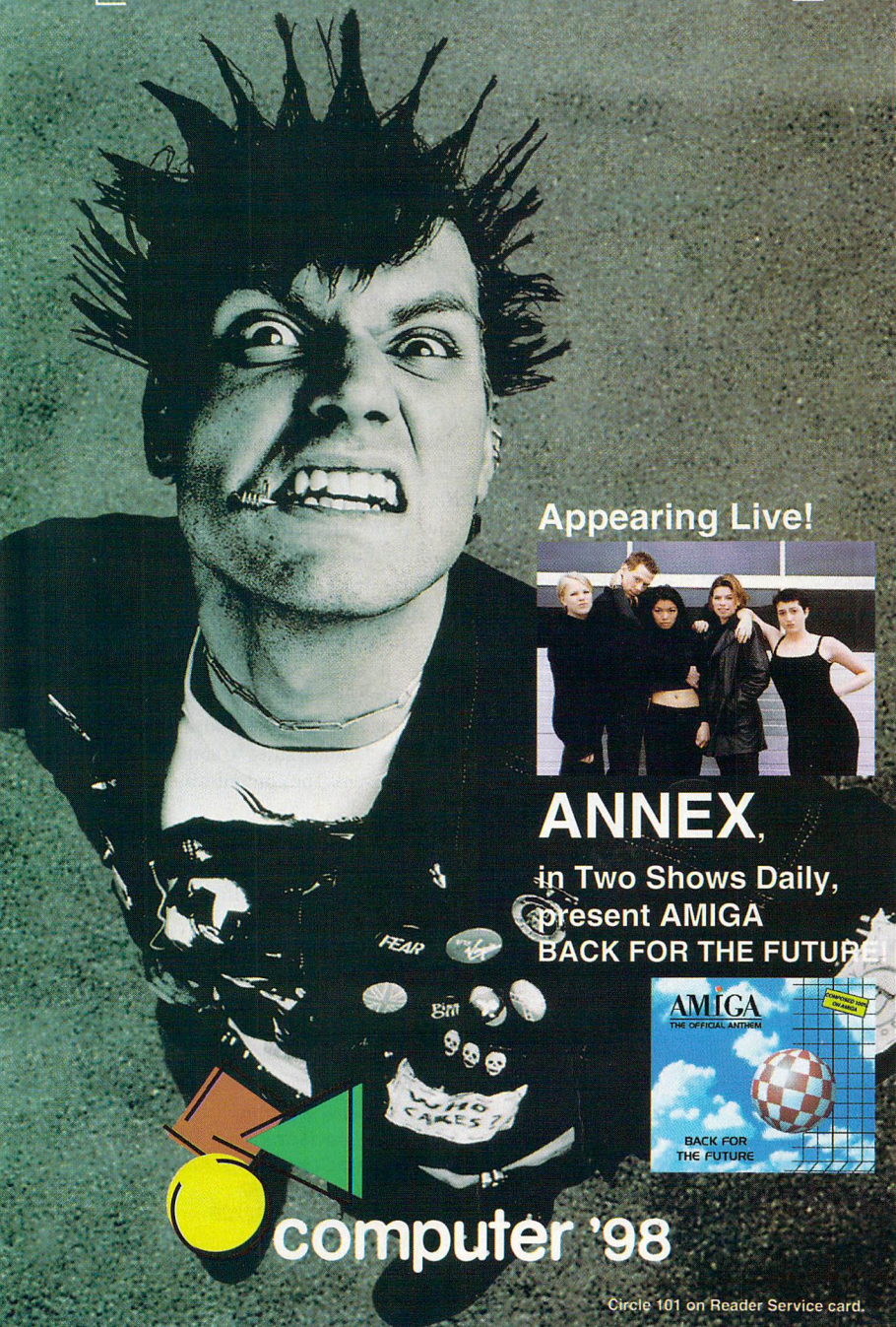
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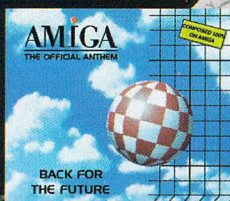


Appearing Live!

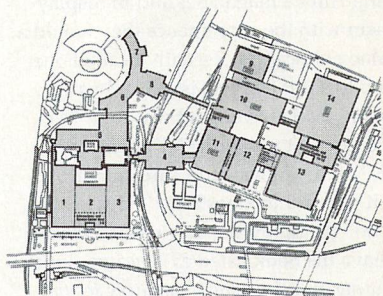


## ANNEX

in Two Shows Daily,  
present AMIGA  
BACK FOR THE FUTURE



13. - 15. November 1998  
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Halls 11 + 12



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# FEEDBACK

Dear AC:

Thought I would share with you an experience I have had several times in the past few months.

I buy my copy of the magazine (*Amazing Computing/Amiga*) at the newsstand. I try to keep them interested in carrying Amiga magazines and in displaying them with the prominence they would a PC/Mac publication. Recently I called one of them to see if the new issue of *Amazing Computing* had arrived and was told "We don't carry that magazine". Knowing better, I went anyway and sure enough, there it was. When questioned why I was told "no" the first time, they replied that they have the book listed as *Amazing Amiga Computing*, not *Amazing Computing for the Amiga*. It got me wondering how many other people had been told the magazine isn't carried or doesn't exist. It wouldn't be as serious if this was a local small town newsstand, but this was national chain store Barnes and Noble.

Down the street is a Borders Books and Music and the answer was much the same with them. Other large chains I called gave the same answer. NO *Amazing Computing*, yes to *Amazing Amiga* (or they didn't carry it at all).

I was wondering if it might be time to change the masthead slightly to give the words "Amazing Computing" more prominence. The words "For the Amiga"

could be kept just below the main title. A boing ball could be placed in the upper left corner to make it stand out in the mass of non-Amiga publications. I feel this might clear up some confusion in the marketplace for both retailers and possibly consumers, new and old, who sometimes have trouble finding their favorite magazine.

Perhaps I'm a single case, but I really wonder if other people have run into this problem. Maybe not. But it was enough of a concern to me to write. Hopefully there is something here worth looking into, if for no other reason than to make sure the magazine continues to be available and will be here to flourish when the next generation Amigas arrive.

Thanks for taking time to read my letter and I hope to see you at Columbus.

Len Carsner  
nard@erinet.com

*Thanks for the heads up and thanks for asking for the magazine. I wish more people would ask if they do not see it! However, if there is a problem with the name, we need to get that fixed immediately.*

*I will contact our distributors and see what they can do to keep the name the same. Changing the name would complicate things such as AC's GUIDE, so we will probably look for a less extensive solution. As far as layout, I would like to get feedback from our readers. What do you think?*

*As far as the continued problem, I would ask everyone to request it in as many different formats as they can remember. I know it is a lot to ask, but we placed the magazine out there with its name, we did not shorten it. Yet, many, including some of our best readers, do refer to AC as Amazing Amiga, etc. Up to now, I haven't been concerned what we are called as long as people are reading us. However, if this is interfering with our ability to get to our customers, we need to solve the problem fast.*

*Thanks again for the information.*

Dear AC,

Enclosed is a check for a 1 year subscription. I look forward to your magazine and value your coverage of Amiga development. I especially appreciate the accent on graphics programs and supporting hardware.

What's with DPaint VI? The last information I was aware of was that E.A. had stopped developing DPaint after DPaint V. Are you going to devote any lines to the granddaddy of paint programs for the Amiga other than what appeared in this month's issue page 42, "Letter Morph Geometry" if in fact it's a "new" DPaint V or DPaint VI?

Can the Red Neon Flying Horse still be seen crossing the bridge? I lived in New Bedford (MA) many years ago and remember that horse at night reflected on the water. Do I have my geography a little askew?

Continue the good work.

Thanks,  
Bruce A Morgan  
Pollock Pines, CA

*Your geography is perfect. We have many friends and relatives in New Bedford, MA so we asked them about the horse. They tell us that it was recently restored by the students at New Bedford Vocational Technical High School and it will be placed down near the water off of Route 18 and will be seen from Rt. 195.*

*In regards to your question on DPaint, please see the article on page 38 of this issue. It is our commitment to continue to supply information to the Amiga market on all regions. If you don't see what you need, drop us a note!*

Dear AC:

I just thought I would comment about the statement in your editorial about the Amazing versus Amiga World comment. I subscribed to both magazines from the beginning. To illustrate the value of them to me: I still have every Amazing, and keep an index of articles. Whenever I am attempting to do something new, I refer to tutorials and find much value even for using updated software. I also did most of the hardware hacks that appeared over the years. I gave my Amiga World magazines to someone a couple of years ago. The content was limited and dated.

I did like both viewpoints of the Toronto show that Kermit did (The International Amiga 98 show in the August 98 issue).

Keep up the good work, and don't change your editorial philosophy.

Charles Meier  
Gateway Amiga Club

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MEILA



Our alien friends' name is Neila. She is our contact with an advanced civilization. Neila has brought to us a great advancement in Amiga technology, the Alien BoXer. The all new leading-edge design uses the AGA chip set for compatibility, but has completely redesigned logic to achieve the highest performance and most flexible design. The Alien BoXer delivers a low cost home Internet solution or the basis of professional Multi-Media computing system based on the Amiga Chip Set and Operating System. The Alien BoXer provides a low price with great expansion options, while delivering a performance in excess of the 040/060 based A4000(T).

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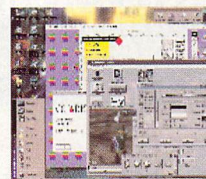
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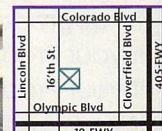
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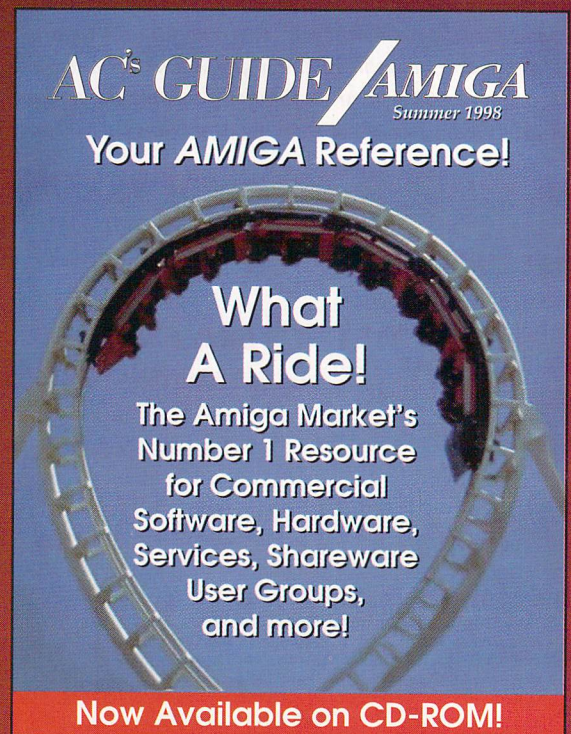
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## A4000 Tower Shortage, National offers a PCMCIA solution, Randomize creates an Amiga-PC network, and AmigaZone is sale priced!

# NEW PRODUCTS

And Other Neat Stuff

### Amiga 4000 Tower Shortage

As this issue of *Amazing Computing/Amiga* is going to press, litigation is in process that has restricted shipments of A4000 Towers. Bernard Hembach, the trustee of the ESCOM liquidation has filed an injunction against QuikPak (the only current supplier of A4000 Towers) to not ship any product until a settlement can be achieved.

The effect of this delay has been hard felt on Amiga dealers who require these units. Several dealers have complained of limited service parts and other problems. There has been some concern as to how long the actual problem has been in place. Informed sources state that product was available as late as July 6, while other dealers have been facing shortages since early June. No confirmation on this has yet been available. There is also concern from industry observers that the shortage could raise the price of any current A4000 stock as well as future units.

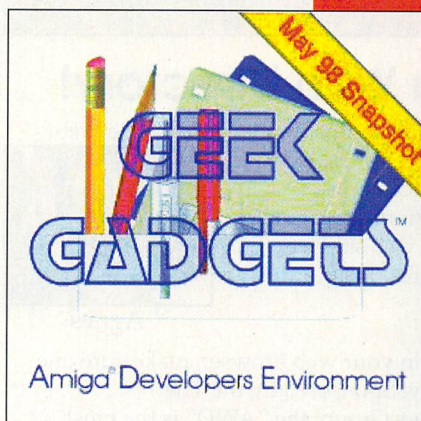
All parties involved in the litigation have refrained from making any announcements at this time. Informed sources have told AC that several opportunities are possible to restart the A4000 line with limited delay, but that current negotiations must remain private.

AC will maintain a watch on this story. Please consult next month's issue, as well as the editorial section of this issue, and our web site at [www.pimpub.com](http://www.pimpub.com) for any further developments.

### Three New CDs

#### Aminet CD 25

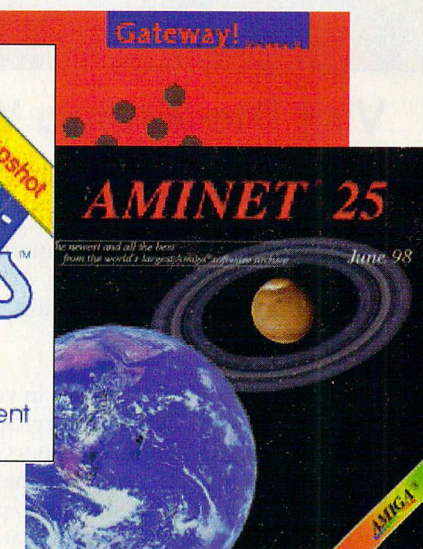
Aminet CD 25 contains nearly 1 gigabyte of (uncompressed) software in thousands of archives. Since the release of



Aminet CD 24 over 500 MB new software has appeared. The current edition includes some classic games: Balls, PowerRoller, Taxi, PipeMaster II and Missile. It retails for 25 DM.

#### Gateway! Volume 3

With the release of NetBSD in the version 1.3.2 a milestone in the widened space of UNIX-alike operating systems has been set. Gateway! Volume 3 offers NetBSD 1.3.2 in full featured release version: Installation files for all 16 supported platforms: Alpha, Amiga, Archimedes, Atari, HP300, i386, Mac (68k), Motorola VME (68k), DEC 5000, Sparc, SUN3 (68k), and VAX; X-Window; all Sources in compressed form; Binary distributions for m68k and i386 for many tools, editors, libraries, TeX, and games. The program is bootable from the CD-ROM and requires no complex installation, all is menu-driven. The CD is directed to the UNIX-Master and everybody who owns more than one computer platform, however it is also



intended to be useful to the intermediate user. It retails at DM 19,90.

#### Geek Gadgets (May 98 Snapshot)

Geek Gadgets™ contains the Amiga Developers Environment (ADE), a project organized by Cronus to produce and support Amiga ports of dozens of the most popular development tools and utilities from the Free Software Foundation, BSD, and other sources. The CD contains virtually all the tools you need to get started programming on the Amiga, including advanced C, C++, Fortran, and ADA compilers, assembler, linker, EMACS editor, "make", source code control systems (rcs & cvs), text and file utilities, GNU debugger, text formatters (groff & TeX), and more. Also included are beta test versions of ports in progress, such as a port of the X Window System (X11R6.1). The update contains approx. 400MB of compressed files including all sources and retails for DM 19,90.

All three sets are available through various mail order companies or directly through: Stefan Ossowskis Schatztruhe, Gesellschaft für Software mbH, Veronikastraße 33, D45131 Essen.

*The press releases and news announcements in New Products are from Amiga vendors and others. While Amazing Computing maintains the right to edit these articles, the statements, etc. made in these reports are those of the vendors and not Amazing Computing.*





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### NIMIQ PCMCIA Ethernet Card

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Features include 10-base-T RJ45, 10-base-2 BNC/Coax, FCC and CE approval, 16K buffer for maximum data throughput, auto senses between 10-base-T and 10-base-2, no power supply required, link and activity lights, and more. Price: \$129 Canadian Dollars and \$89 US Dollars (approximate).

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### AmigaZone price cut!

AmigaZone, the online service for Amiga owners and users, has announced it has dropped its price to \$12.95 per month. This new low price gets you full 24/7 access to all AmigaZone features including FIVE different ways to access the Zone!

AmigaZone has dozens of message areas including their own local areas, Amiga Usenet newsgroup feeds, Amiga Fidonet "echo" feeds, and over a dozen Amiga-specific mailing lists fed into their own message bases, each holding weeks or months of postings and over 30,000 articles, online at all times. The file library contains over 40,000 files online all the time, and thousands more on their multiple CD changer.

AmigaZone has live, interactive chats seven nights a week, and the Sunday chat always features at least two prize contests, open to all members.

You can log in from anywhere in the world. All you need is an account with any local Internet Service Provider (ISP), and any terminal program or telnet client, or any browser. You can also choose to bundle AmigaZone with a full CalWeb Internet Services UNIX shell account- this "AmigaZone Plus" package gets you the same AmigaZone account PLUS the CalWeb UNIX shell, including all the usual UNIX shell tools (news, mail, etc.) plus 10 meg of free online storage and web hosting for your own personal web site.

AmigaZone Plus is \$19.95 per month.

To sign up for AmigaZone or AmigaZone Plus, just visit <http://www.amigazone.com> and enter their secure signup page (SSL required - works with all Amiga browsers). You'll have your account within one or two working days.

•AC•

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# ZAP! You're Cartoonized!

A hideous name for  
an interesting effect.

*by Nick Cook*

"Cartoonize." Yep, that is how the Adobe Studio Essentials (see Image Club) catalog describes this Photoshop trick. The semantic stinker accurately characterizes a method to create a high-class "posterized" (these -izes are getting out of hand) image.

To recreate this effect on the Amiga, ImageFX's "Softlight" compose option will be used. Softlight compares the main and swap images. If a color in the swap image is lighter than 50% grey, the image is lightened; otherwise, the image is darkened.

Step One: Load the image (Figure 1). Use the Buffer commands to make a copy of it for the Swap buffer.

Step Two: Blur the image in the Main buffer. Select Gaussian Blur from the Convolve menu. Slide the Width requester to the desired level. Figure 2 shows the effects of a 4.0 setting.

Step Three: Go to the Composite panel, and select Softlight from the Operation popup menu. Pick a Blend level (the example used a setting of 50%). Let 'er rip (Figure 3).

The cartoonizing (that hurt just typing it) effect is fairly subtle. The photo looks more like a finely drawn illustration. The image's atmosphere hints at mystery. This technique demonstrates how even minor changes can affect an image's impact.

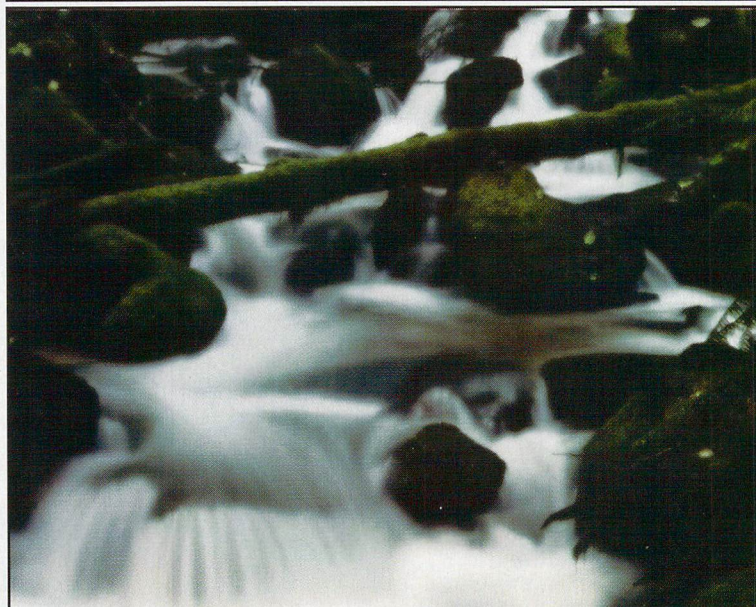
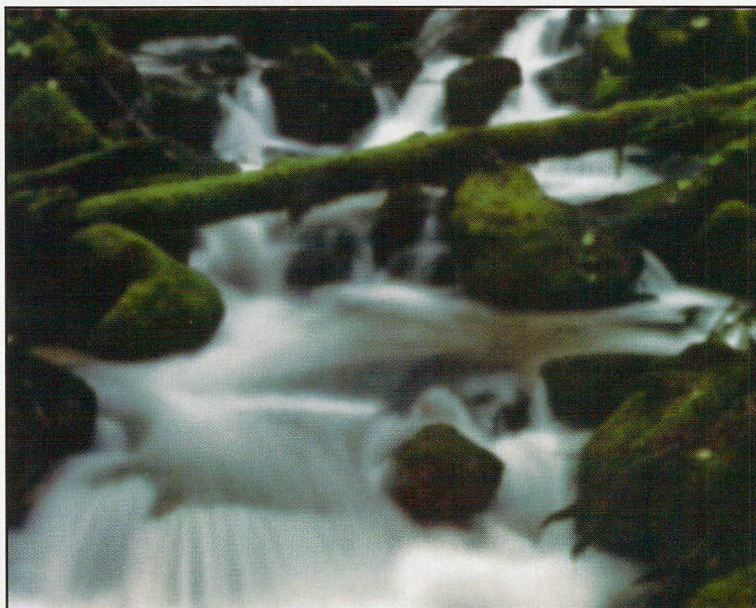
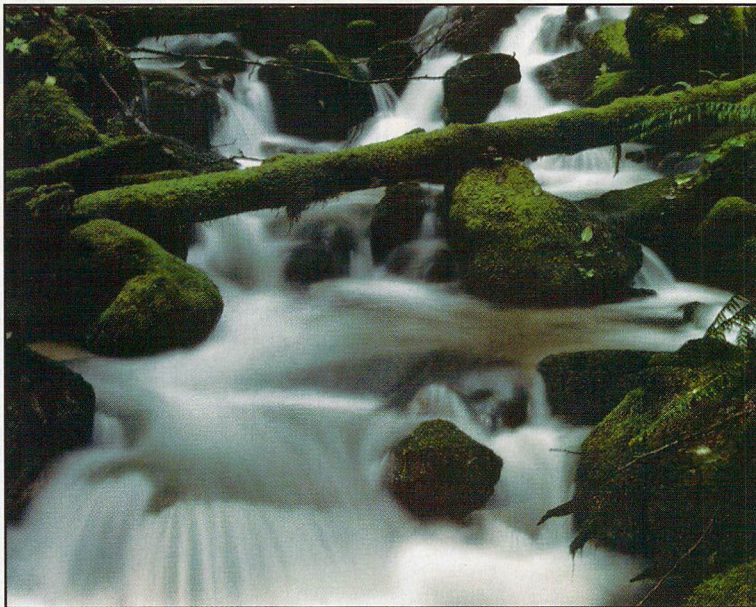
•AC•

#### PHOTOS:

Figure 1 (Top): Think there is enough moss here?

Figure 2 (Middle): You may want to experiment with different levels of blur.

Figure 3 (Bottom): The resulting image appears more hand-done than a photo.





# Cloud Castles

**Data is data and AC's resident artist uses data manipulation with your favorite Amiga software to create artistic representations and flights of fantasy for pure art and more.**

*R. Shamms-Mortier*

One of the most powerful capabilities of the computer is to link raw data without prejudice. What do I mean by this? Simply that the computer doesn't care, if we might use that word, about where the data is coming from, or where it is headed. The data is just the data. This allows computer artists and animators all manner of new creative pursuits, because that same data can serve in many different creative ways.

For instance, there are several Amiga applications that use pictorial data to create sound. The data is the data, so a color (hue) or grayscale intensity (brightness) at a certain point might be re-interpreted as a specific frequency and amplitude. This allows the computer to decipher a digitized version of the Mona Lisa as a series of amplitudes and frequencies, so the painting can be played as a musical composition.

With the right software bridge as a translation device, the same thing can be accomplished in reverse. A series of tones can generate colors and shapes, and directions in space that a paintbrush might head. Loudness of a one (amplitude) might be interpreted as the brightness of a color, while the frequency might indicate a specific hue. The length of the tone in time might influence the direction and shape, and/or the placement on a 2D or 3D canvas.

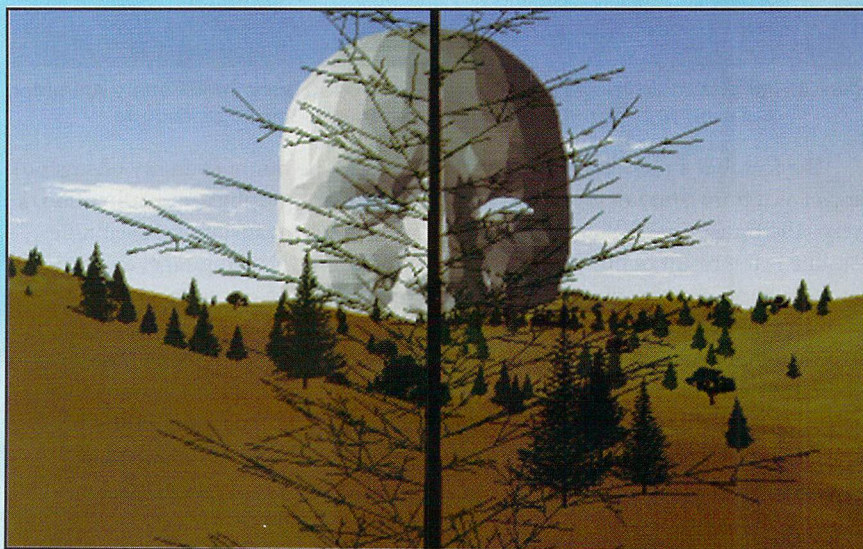


Figure 1. Transferring data from one format type to another can lead to interesting results. Here, a DEM with a 3D object is rendered by Natural Graphics Scenery Animator. The rendered image is saved to disk.

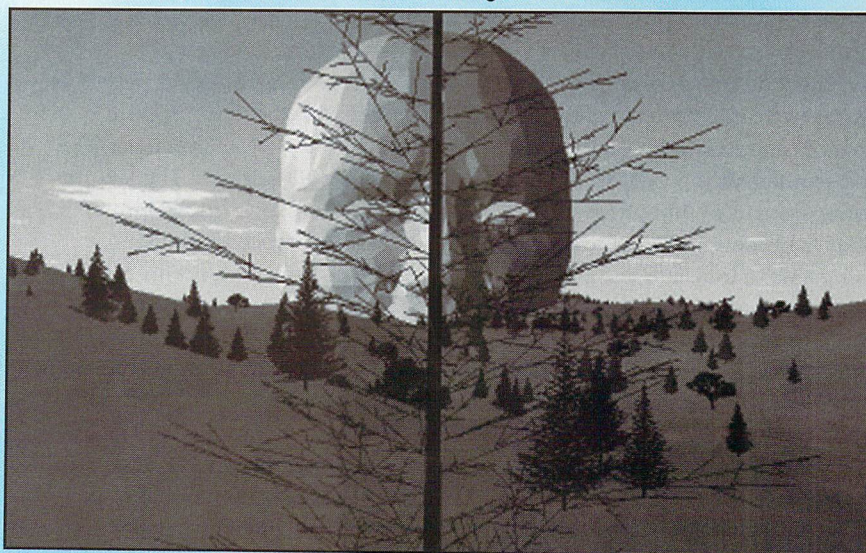
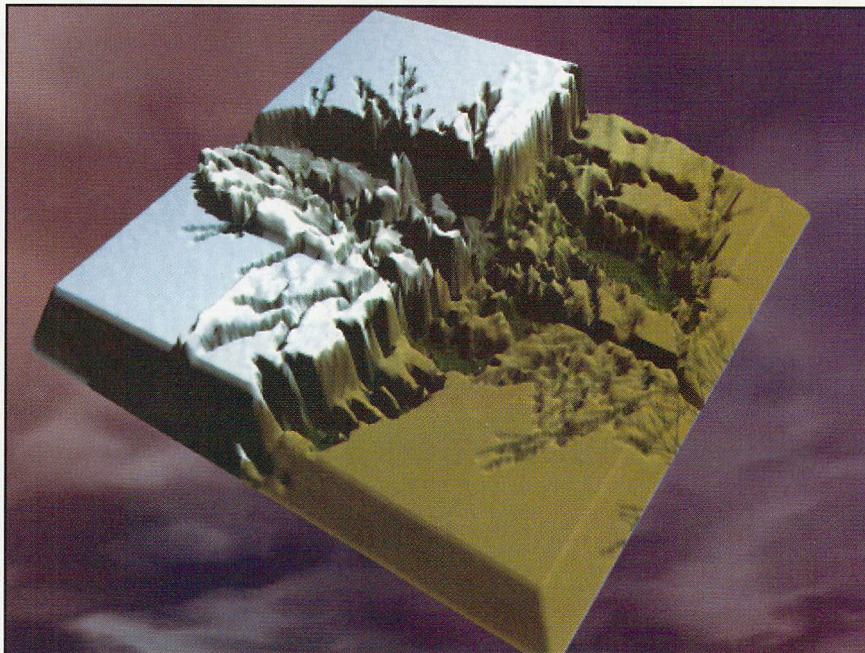


Figure 2. The rendered image from Figure 1 is translated into a grayscale image in ImageFX, and saved again.





**Figure 3.** The grayscale image from Figure 2 is imported back into Scenery Animator, and used as a topographical map to generate this 3D landscape.

The fact that a modern computer can act as a translation device that makes the transmutation of perception possible is the result of hundreds, if not thousands, of years of philosophical musing. There has always been a suspicion that our senses are cross-pollinating, and that we humans have the ability under the right circumstances to see what we are hearing, to taste what we are feeling, and to generally transfer our perceptions across the borders of their accepted limitations.

Some people will tell you that the rich smells of Spring cause them to hear music, and that the taste of a favorite food causes visions. More recent and contemporary philosophers, like the German philosopher and mathematician Goethe, developed entire systems of thought around octaves of color and sound. The act of being able to translate one perceptual medium into another is known as synesthesia.

### **What the Amiga brings that is new**

The Amiga is able to quickly mathematically calculate what the data translations might look or sound like, a task too complex and time consuming for the human mind. With the recent

interest (one might even say obsession) in computer graphics and animation, a series of new translation possibilities have entered the language, and are fueling creative pursuits.

In 3D applications for instance, developers have invented a new and evocative realm of explorations that have vastly widened our ability to appreciate the raw data aspect of existence, and especially how the data can be used to bring heretofore unheard of tools into being, to shape what we see and how we manipulate a computer-based 3D scene. Many of these new approaches can be grouped under the term "mapping".

Most Amiga graphics people are familiar with the term "texture mapping", a process that places 2D images on 3D surfaces. The textures fall into two types: digital bitmap images, and procedural textures.

Procedural textures are mathematical formulas translated into image data. For many users, texture mapping ends there, and is limited to just that. After all, isn't it enough to be able to see a blank sphere suddenly appear as if it were made of wood, metal, or some other more esoteric substance, all dependent upon the look of the assigned texture map? The fact that we can do this, and also assign

different parameters for how the map is to be placed (parametrically, spherically, as a cubic surface, as a frontal or to projected plane, etc.), has in itself revolutionized the way we manipulate visual art and animation. But, to use a forgivable pun, we have only scratched the surface.

Remember that data is data, and the only limitation on how it can be made to function as a translation device are the conceptual limitations of our own minds. The computer has no such limitations, and no final plan for how the data is to be used, or what it will produce. Data is data.

For instance, no one has yet created an application that can translate a 2D color map into sound that can wrap itself on a 3D object, so that the object can be played as a 3D virtual instrument. That doesn't mean it is any less possible than wrapping a surface with color, it just means that nobody has created the necessary code yet because there doesn't seem to be a viable use for this end result. What many developers have done, however, is to figure out novel ways that the 2D image can address the 3D target, ways that bridge the gap between painting and sculpture.

### **2D as 3D**

How does painting differ from sculpture? Every creative tool is made to answer a question. Learning what questions to ask is the first step in any creative enterprise. Painting, as we have come to know it, is a two dimensional experience. We may emulate 3D perception in a painting, by adding seductive shadows and perspectives, but that is where it ends. You cannot walk into nor move around in a 2D painting.

Sculpture, on the other hand, has many more perceptual options than does a 2D painting. Every angle you view a piece of sculpture from (which also includes the sculpture of architecture) gives you a new presentation. Things that were hidden are revealed, and things that were clear become obscured as we circumnavigate a 3D object. This is part of the perceptual lure of 3D art, on the computer and in



the world. Add the dimension of time as well, and you have a basic perceptual form for human experience. We live in an animated sculptural dimension of experience.

### Sculpture and Painting

What does sculpture possess that painting doesn't? Sculpture possesses one more spatial dimension than painting. Depending on the orientation you are referring to (how the 2D plane of the painting is positioned in space), you can call this extra dimension "depth" or "height". The question computer graphics programmers ask is "how can a 2D plane be made to serve the requirements of a 3D object"?

A painting is a special type of 2D plane, since it has arranged material, elements of either chaotic or symmetrical color and intensity, on its surface. The question really becomes then, "how can the elements of a 2D painting serve as active variables in the construction of a 3D object"? Goethe might have asked the philosophical question "how can elements of color be used to stimulate specific emotions"? Having refined the question, we are ready to search out possible responses.

What ingredients does color itself possess that can be used to generate 3D parameters? Color does not have 3D depth, so the question is refined again into one that asks how color as depth data can be "read". One answer might be to translate every hue into a specific depth dimension in an arbitrary manner. Red might stand for one inch, blue for two inches, yellow for three inches, and so on. Doing this would give us a specific sculptural object, but one based more upon chaotic accident than translation. The color portrait of a face, for example, would not be translated as the face in three dimensions, but rather as an unrecognizable 3D construct.

What else might we investigate? Intensity comes to mind, meaning the degree of light or darkness. To really see intensity, a color object has to be translated into grayscale first, so the seductive hues are removed. The hue of the color, what we know as its "name", can interfere with how our

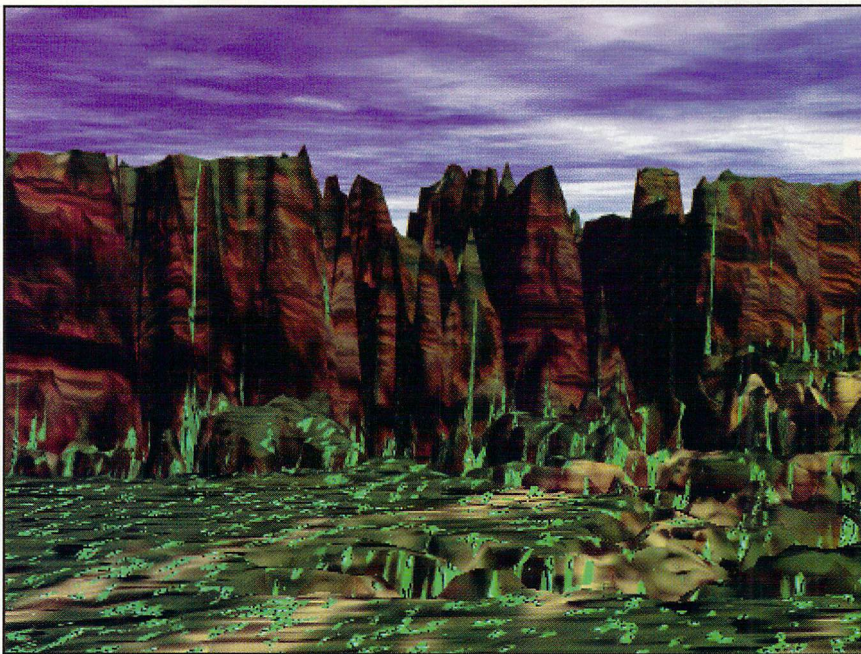


Figure 4. A close-up of the 3D landscape shown in Figure 3, and texture mapped with a new bitmap file, changes the terrain into a unique world.

eyes read its intensity (brightness and darkness). If, in the grayscale translation of the image, we assign black a height of 0, and pure white a height of, let's say, 256, then all of the in-between intensities will fall between these two poles. This time, the translation of a portrait will indeed look like the 3D sculpture of that portrait when we make the transition from 2D to 3D, from surface to object, because the intensity ingredients are not arbitrary. By the way, the number 256 seems to be a perfect digital boundary for recognizing a colorless grayscale image, with just enough different levels of gray to make the image look smooth in the translation, and a perfect member of the binary number series.

### The Electronic Model Maker's Dream

The process that allows us to translate a 256 level grayscale image into height data for a 3D object is commonly known as "deformation modeling". It is closely related to another technology, a video layering process known as Alpha Channel Compositing. In Alpha Channel Compositing, the intensity of a 256 level grayscale image is interpreted as transparency data. The more black the intensity, the more transparent. The

more white the intensity of the image at any point, the more opaque. This allows video artists to composite transparent images and live video over/under other images. For the 3D artist and animator, the same data used for Alpha Channel Compositing is read as height or altitude data. Remember that for the computer, data is just data, with no singular or targeted final result.

### DEMs and More

Software designed to emulate real-world or other-world terrain are known as scenery generators. The Amiga boasts a good collection of these applications, like Natural Graphics' Scenery Animator and VistaPro. A DEM file (Digital Elevation Model) is one data format that Scenery Animator uses to create 3D terrain, and a DEM file is a 256 level grayscale interpretation of real-world topography. A DEM is a grayscale 2D photo, and its grayscale levels are translated into height information by software formulas. Scenery Animator and VistaPro allow you to import and export any image data as a DEM file, allowing you the distinct possibility of creating and using your own grayscale art for generating 3D topography.



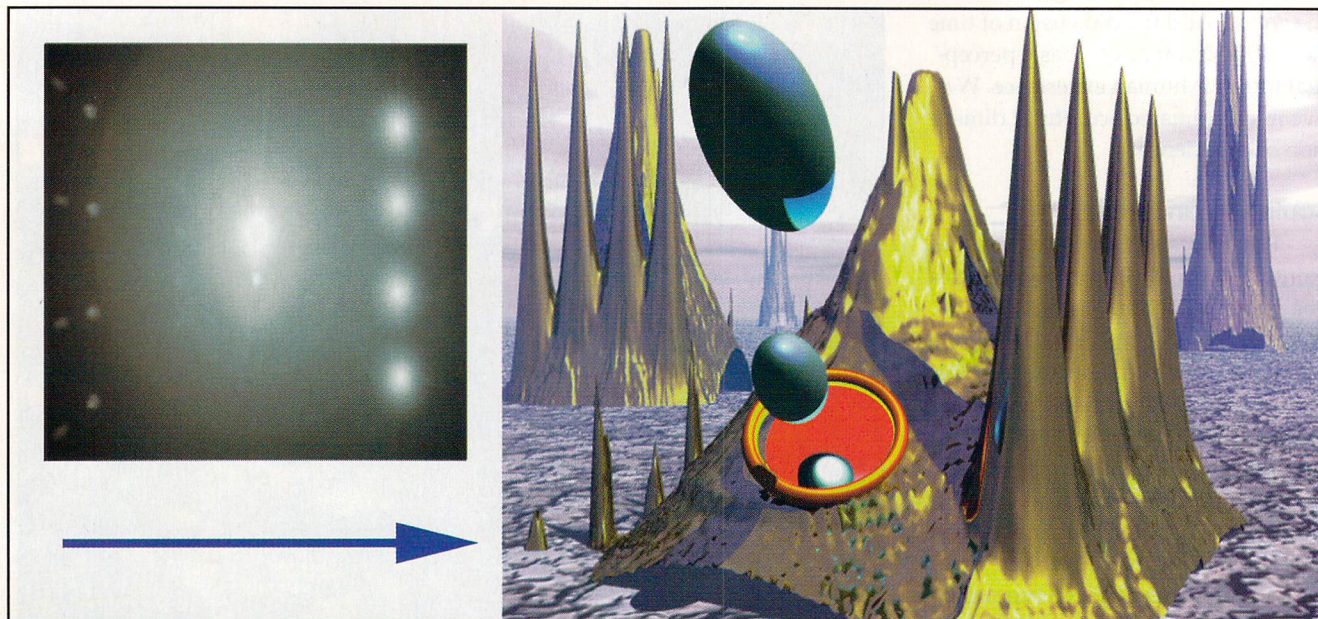


Figure 5. A lens flare graphic, generated in LightWave, can be translated into a 3D object, as demonstrated by the mountain structures shown here.

### Cloud Castles

We have had to cover a lot of preparatory ground to get to this point, the focus of this article, but we have almost arrived. There's just a bit more to say about texture mapping. DEMs and image files that translate grayscale levels into 3D topography can also be thought of as deformation maps, since they "deform" the object they are mapped onto. A DEM can be thought of as deforming a 2D plane. Scenery Animator's data, for instance, can also be ported to Aladdin 4D, the

superlative Amiga 3D/4D application from Nova Design. A4D also allows you to apply a deformation map, a grayscale image file, on its own. In A4D, for example, you can apply waves as deformation maps, so that the actual surface of an object is deformed by the mapping process.

Pictures or photos of clouds make great deformation maps when translated to grayscale, as do grayscale lens flare art. This is because clouds and lens flares offer very smooth transitions from one grayscale level to

the next, so the result of the deformation map is a series of 3D terrain structures. You can also use any smoothing operation in an application like Nova Design's ImageFX on any art to make an image that is cloud-like, and then use that as a deformation map in a 3D application to create 3D objects. A visual demonstration of all of this is chronicled in the figures that accompany this article.

Enjoy! See you next time in ROMulan space.

•AC•

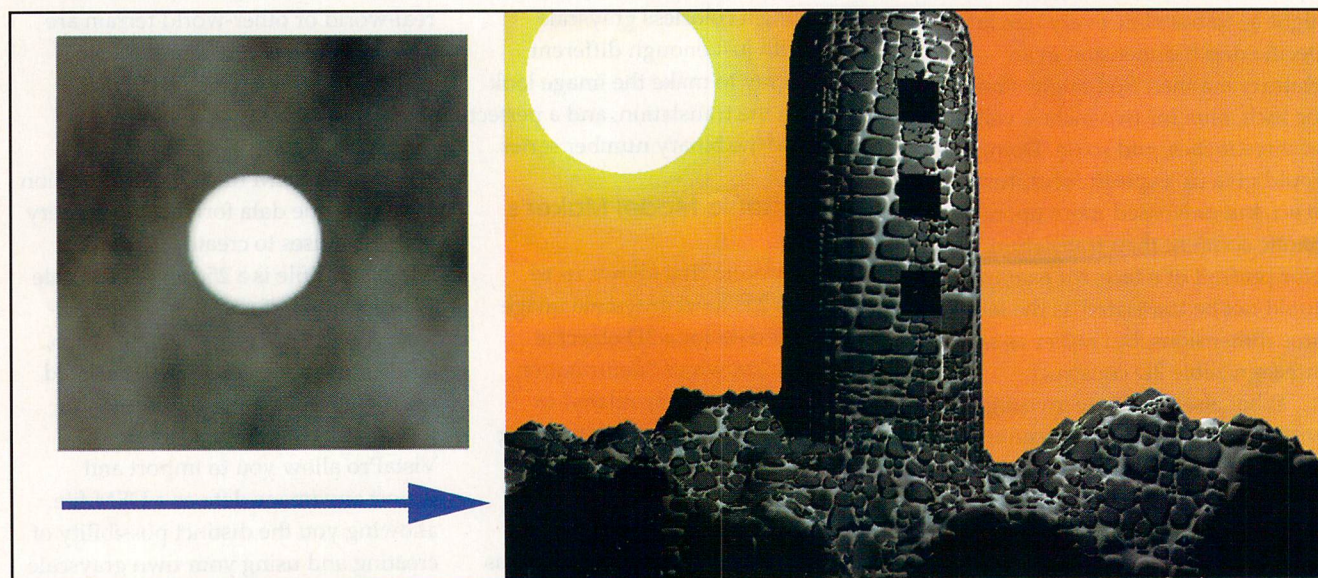
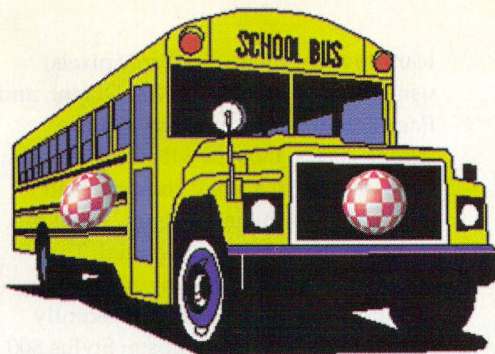


Figure 6. This image of a sun surrounded by clouds created the 3D scene on the right. A single majestic tower remains standing, surrounded by the ruins of the once mighty cloud castle.





# Back To School WITH AMIGA

## The Amiga Goes To School in Denver

The Wheat Ridge Middle School has adopted the Amiga for their art program and more.

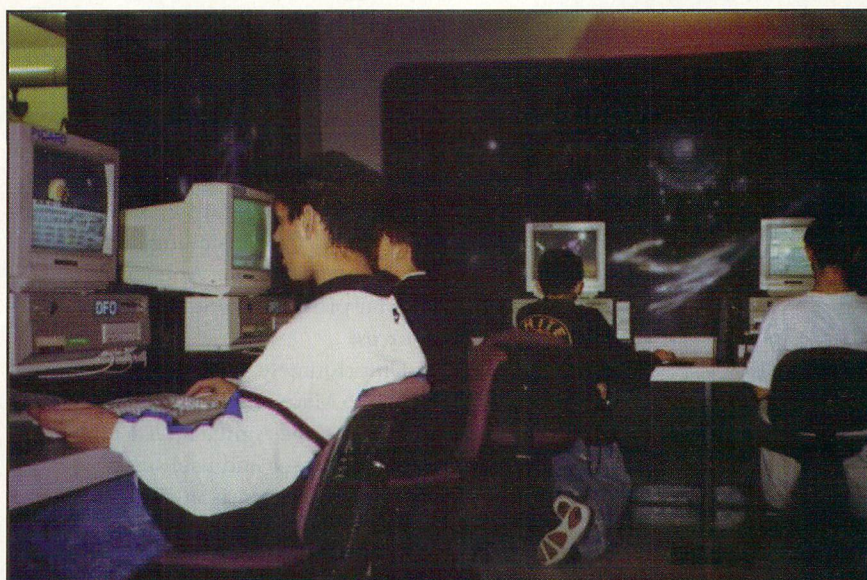


Figure 1: ImageFX is among the tools the students use in the WRMS art program. From left, Alex Martinez, Winston Delgado, Talon Jones, and Erik Anderson.



Figure 2: Erik Anderson (top left) and Alex Martinez (bottom left) exchange ideas, while Gabe Young is intent on his project.

### Special Report by Joe Obrin

In an innovative program in Wheat Ridge, Colorado, students are exposed to the graphical power of the Amiga. What makes this program unique is the fact that these are graphic arts students in middle school (grades 7 and 8)! The Wheat Ridge Middle School is the only school in the Denver region (and the only school in this part of the country) which includes the Amiga as part of its graphic arts curriculum at the middle school level.

Jeff Dodd, the teacher responsible for introducing the Amiga to Wheat Ridge's curriculum, has been teaching Amiga graphics to his kids since 1986. "Lon Seymore, our art coordinator, knew that I was looking at the IBM [PC] as another project to get kids interested," Jeff recalls. "I had even taken some IBM classes. He suggested that I try the Amiga. That was an Amiga 500, that I still have by the way. I liked it really well, and we used it for a whole year. The kids liked it a lot, and we bought a couple of A2000s when they first came out. At the time there weren't any other computers in middle schools in Jefferson County. Even though the vendors in town came and went, we bought a few more machines each year for a while after that."

The Amiga is integrated as part of a general art class offered to the 7th and 8th graders. Along with learning to work in traditional media, such as ink, paint, and clay, Jeff's art students





Figure 3: Erik Anderson helps fellow student Talon Jones understand a fine point of image processing.

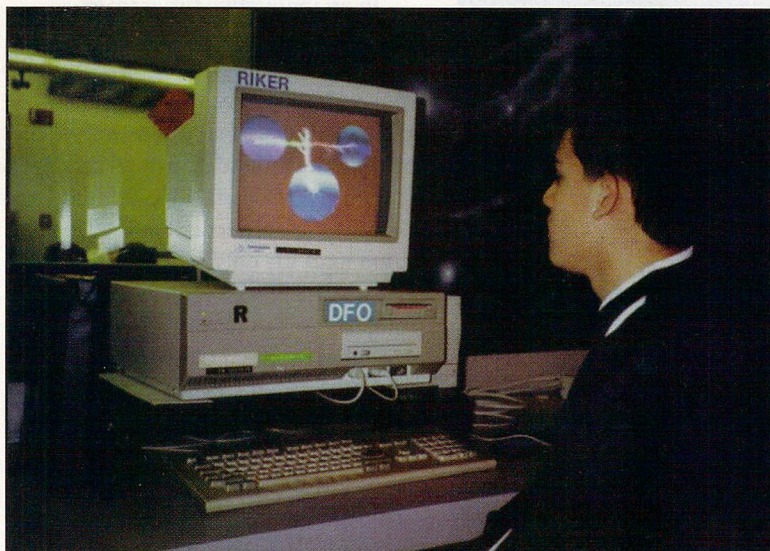


Figure 4: Winston Delgado takes advantage of ImageFX's powerful features to realize his artistic vision.



Figure 5: The machines in the space-themed lab are designated with character names from the Star Trek universe.

learn to manipulate electronic pixels, using such tools as ImageFX, DPaint, and Pagestream. The school has a dozen Amiga 2000's, most of which are permanently set up in a small computer lab adjacent to the main art room. All of the machines have been accelerated. They each have the 3.1 operating system installed. In addition, Jeff just recently brought in a set of new Epson Stylus 800 color printers.

### Pre AGA—Out of Date?

Nonetheless, Jeff confesses that one of the biggest frustrations in using the Amiga has to do with a feeling that the technology he has access to has become out-of-date. After all, his machines are all pre-AGA. "With kids, you have to get all of the machines to work exactly the same," Jeff explains. But, the prospect of replacing a dozen machines at once has been too daunting. In fact, although Jeff has a 24-bit graphics card in his A2000 at home, buying (and installing) a dozen graphics boards for the Amigas in the lab has so far proven beyond the school's resources.

Unfortunately, as the kids become exposed to Macs and PCs in other classes and at home, the Amiga (at least those the kids get to see and use) suffer somewhat by comparison. "The kids are really starting to lose the enthusiasm that they used to have for the machines, because the other kinds of computers all have a newer look to them," Jeff confides.

Jeff also admits to some difficulties with compatibility issues. "It seems like all of the new software that you get does not work together as well as they should," he said. "I'm still struggling getting my Epson and ImageFX to all line up together. I've finally got DPaint IV working, but they don't use the Studio Printer drivers. It works on some of the machines and others have banding in the printouts. I've finally got one of the printers set up perfectly, now I just have to copy it over to the others, if you know what I mean."

Nonetheless, the stability of the Amiga OS, and the compatibility of tools for the machine across several generations is endearing. "One thing that I'll say in its favor, is that the things I've been



doing on the Amiga you can't do on the Macs or IBMs, because you have to buy all new programs to work with their upgrades. The old stuff (on the Amiga) is still compatible." This has been a big advantage in the middle school environment, where resources for upgrades every six months are not necessarily available.

The underlying power of the machine and its tools shows in the results that the kids have been able to achieve. "The kids have been able to produce some really nice artwork," Jeff states. "They have finally realized that the high resolution prints take a lot of time, because of the quality they are getting out of it. The yearbook kids really like it, because we've been creating the yearbook the last 4 years on these machines."

### Branching Out

Jeff has even recently won a convert among his fellow faculty. Down the hall from the computer artwork lab, there is an Amiga doing video work. "[There is an] A2000 they are using to do animations for the school's TV station (KWRM channel 10)," Jeff explains. He then goes on to tell about the teacher in charge of the lab selecting the Amiga for this task, since it could easily do real-time animations and output them to video tape, a task which is still considerably more difficult on the PC.

"He saw the animations that I was able to directly output from the Amiga," Jeff relates. "He saw anims that the kids in my class had already done in the past. I had an extra machine, and Dan [the video teacher] had the money to put an accelerator and the 3.1 operating system in it."

So, thanks to Jeff Dodd at the Wheat Ridge Middle School, there are students in Denver who are learning about graphic arts on the Amiga at an early age. If the Amiga really hopes to be "Back for the future", we would do well to realize that kids like this are the future of this machine. What has been done at Wheat Ridge Middle School should be recognized, commended, and perhaps even emulated.

•AC•



Figure 6: The Amigas at Wheat Ridge Middle School (WRMS) have a lab adjacent to the main art room.



Figure 7: Jeff Dodd, who is responsible for Amigas at WRMS points out something on one of the machines.



# Aladdin4D

## Cutting Torch Animation Project Tutorial

### Part 2: Modeling the Torch Head

by Dave Matthews

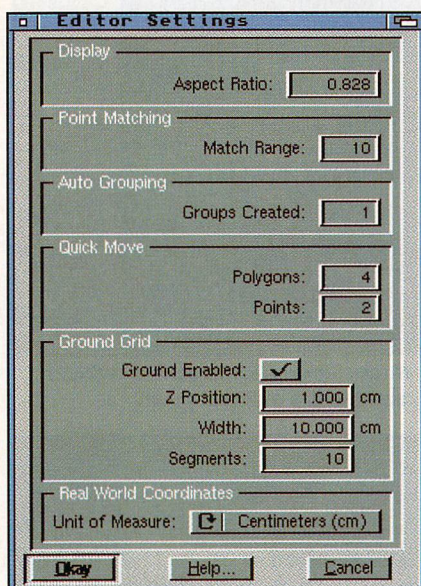
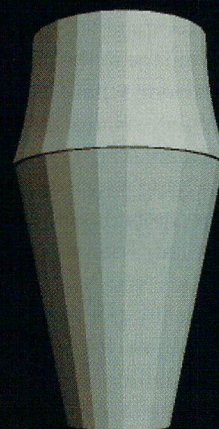


Figure 1: Aladdin's Editor Settings

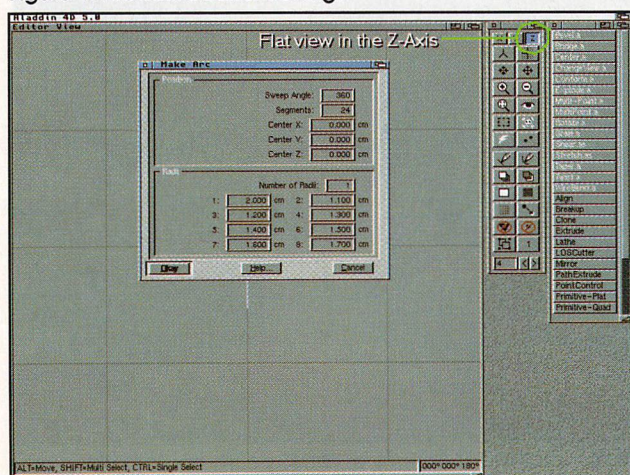


Figure 2: The Make Arc Panel

In our last installment (*Amazing Computing/Amiga July 98*), I covered the preliminaries to creating a project in Aladdin 4D. Now it's time to (figuratively speaking) get our hands dirty and start modeling.

Before we start, take a few minutes to think about the coordinates measurement you want to use when modeling. Aladdin 4D allows you to use Units, Meters, Kilometers, Centimeters, Feet and Inches. This is available under the Settings/Editor Settings... menu, in the Real World Coordinates Section, see Figure 1.

Which you should use depends on what you are modeling. Try and build your models to scale, if possible. In

other words, if you want to model something that is 10 cm long in the real world, use CM measurement and make it 10 CM long in Aladdin. This helps to make consistent models that are in proportion. If you are creating an abstract project, of course, use whichever is most comfortable. For this project, I'm going to use Centimeters.

#### Extruding the Torch Head

Now, to start off, let's make the cutting torch head. This is a roughly conical shaped object, of a brass like metal. The base will be 2 CM, and the torch end is 1 CM. The cone has a cylindrical base to connect it to the oxyacetylene gas. Note, you can skip the gas part if you want to make a laser or other more futuristic type cutting torch.

To make the cone shape torch head, we will use the tried and true method of extrusion. First we need the base form. Select the Z button in the gadget panel, and hit the space bar. This is "flat view in the Z", in other words, we are looking straight down. To make the base, select Make Arc from the Edit menu. Set the sweep angle to 360 degrees. For the segments, I'm using 24, but you can use more or less depending on how much RAM



you have, and how smooth you want the final object. Set the center x, y and z to 0.0 CM, the number of radii to 1 (for a circle) and radii #1 to 2.0 CM. See Figure 2.

Click on Okay. Once you have your circle, there is one more step before we can extrude it to form the cone. When extruding in Aladdin, you need to be watchful of where your "attach point" on the polygon is. Many operations in Aladdin use the attach point as a target. In our case, the extrusion will end up centered on the attach point. Since our circle is centered on 0,0,0, and we want a symmetrical extrude, we need to set the attach point to 0,0,0. To do this, deselect the circle by right-clicking anywhere in the editor view. Then Right Click in the Pan gadget. This will center the attach point to 0,0,0. See Figure 3.

Now we can do the extrude. Select the circle, then immediately Right Click on the Extrude gadget, in the External tools window. The Extrude Settings window will pop up. Since we made our circle in the Flat Z view, we want to extrude down in the Z direction. So, for the Length, enter 0 in the x, 0 in the y length, and 6 in the Z box.

We want a conical shape, so we need to reduce the diameter as we extrude, so for the Final Size, make the X and Y values 50%, and leave the Z at 100%. The segments should be 1, the swell at far, and the swell Power at 0. The swell is used for making distorted

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extrudes, and you might want to play with this, but for now, we just want a straight extrude.

"Connect last segment" should be checked. This is used for solid objects. If this is set to "off", the last segment of the circle will not be connected, and you would end up with a kind of hollow c-shaped object. Poly to Poly and Single Group should not be checked. See Figure 4.

Click on extrude to perform this action. If you are happy with it, "set" the circle by Right Clicking on the Editor View. This tells Aladdin to finalize the object. If you are not happy with the results, immediately click on the delete polygon gadget to delete the newly made polygons. You should end up with something similar to the truncated cone in Figure 5.

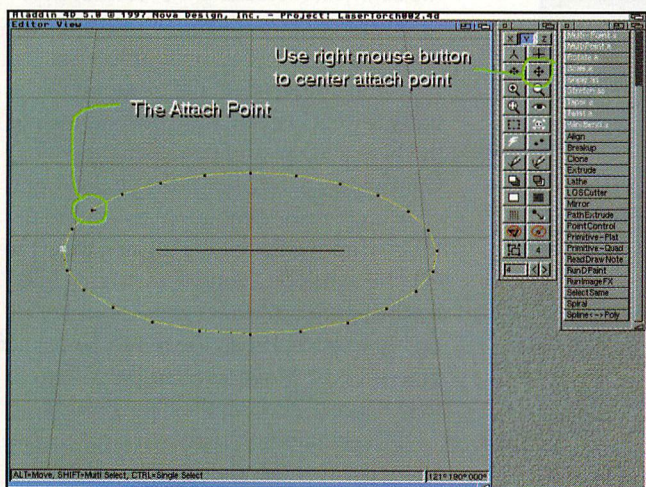


Figure 3: Centering the Attach Point

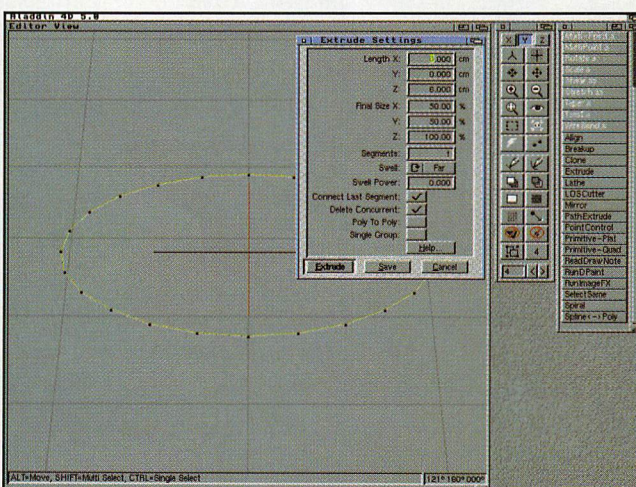


Figure 4: Extrude Settings



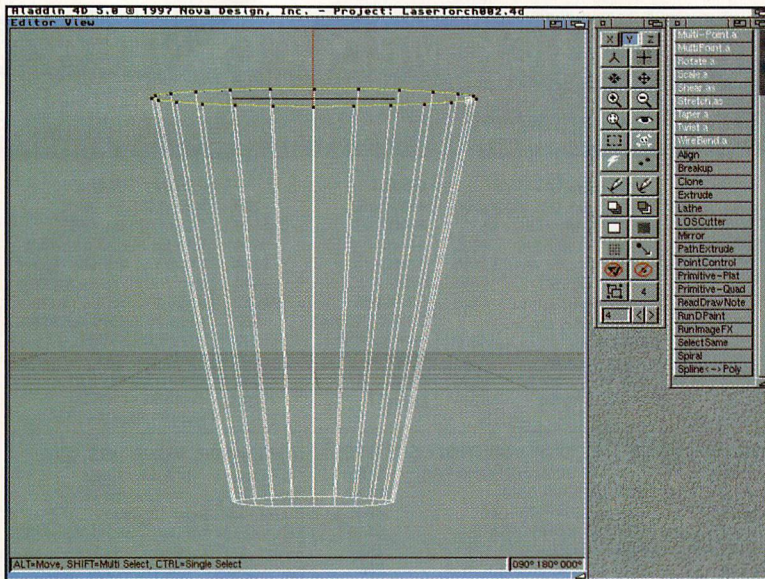


Figure 5: Our Extruded cone

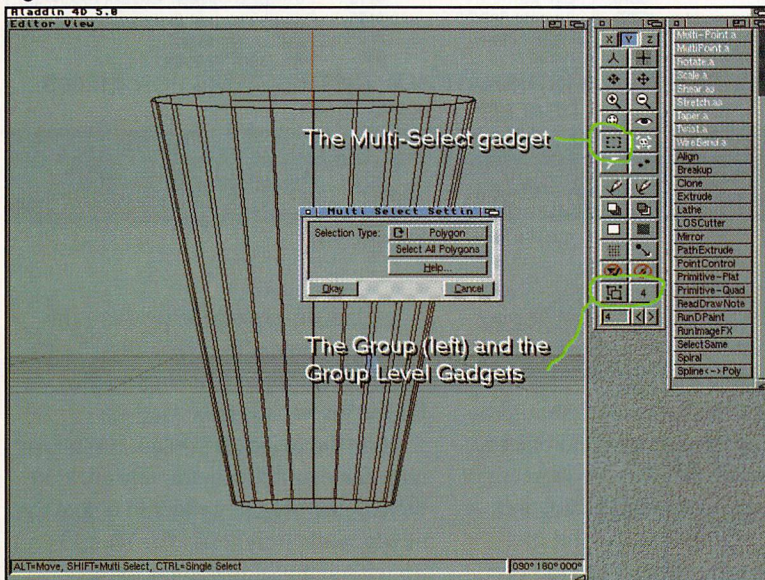


Figure 6: Multi-selection and Grouping

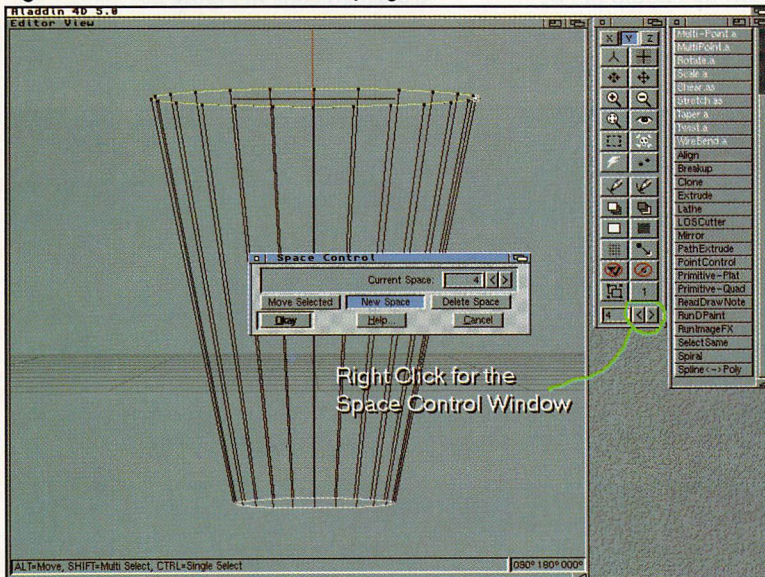


Figure 7: Space Control Panel

## Group Therapy

We are not quite done with the cone yet. We need to group the body of the cone with the ends, so we can deal with the cone as a single entity, instead of separate parts. Aladdin allows for 5 polygon groups, as well as shading and shadow groups. You use groups for convenience in building models. For instance, a car model might have the main body in one group, the wheels in another, the interior in yet another, etc. To group the clone, Right Click on the Selection gadget, and click on Select all Polygons. Click on the group number gadget until number 2 appears. Now Click on the group gadget. The entire cone, the ends and the body, should select when you click on it now. See Figure 6.

## Space, the Final Frontier?

While so far our model is very simple, with more complex scenes, the screen can become very cluttered, making it confusing and difficult to build complex models. While you can use the Hide and show gadgets to hide polygons temporarily, Aladdin offers a better solution for keeping large projects on track. Similar to Lightwave's layers, Aladdin's spaces are separate screens that allow you to work on a model's various sub-components, while still keeping all the parts aligned and ready to be reintegrated. Objects and parts of objects can be moved between spaces via the Space Control window. See Figure 7.

## To Top It off.

Now we will make the cylinder for the connector. Holding the Control key, select the circle at the top of the cone. The control key tells Aladdin to select one poly only, rather than the group. If the body selects instead, hide the body using the hide gadget, and then using the Control key again, select the circle. Right click on the clone gadget in the external tools window. Set all the offset gadgets to 0.0, then click on Clone. Now right click on the Space up/down gadgets and click on New Space. When the requester asks if you wish to "Move selected poly(s) to new Space?" click on the Okay button.

The circle should be in the new space, all by itself, and should still be selected. Right click on the Scale gadget in the



External Tools menu. We need to make the cylinder just a bit larger in diameter than the cone, so set the Scale X and Y values to 105.0%. Leave Radial off, Scale From should be Center, and Scale Deforms should be no. Click on Scale, and then set the poly. See Figure 8.

Now we can extrude the circle into a Cylinder. Remember to set the attach point to 0,0,0, and then right click on extrude. Set the X and Y Length to 0.0, and the Z length to -3.0. Just for fun, let's use the swell option to make our cylinder funnel shaped. Set the Final X and Y size to 80%, the segments to 8, the Swell to Far, and the Swell power to 2.0. The Far option bulges inward, like a spool, and the near option bulges outward. See Figure 9.

Once you have the object extruded to your satisfaction, group it, and move it back to the original space. You should end up with something like Figure 10. Figure 11 shows this object rendered, with no shading or surfacing.

Well, I'm out of space and time for this article. Next time, we'll finish the Cutting torch head and add shading, surfacing and texturing. As always, you can write to me care of *Amazing Computing/Amiga* or via email: dm05438@navix.net

•AC•

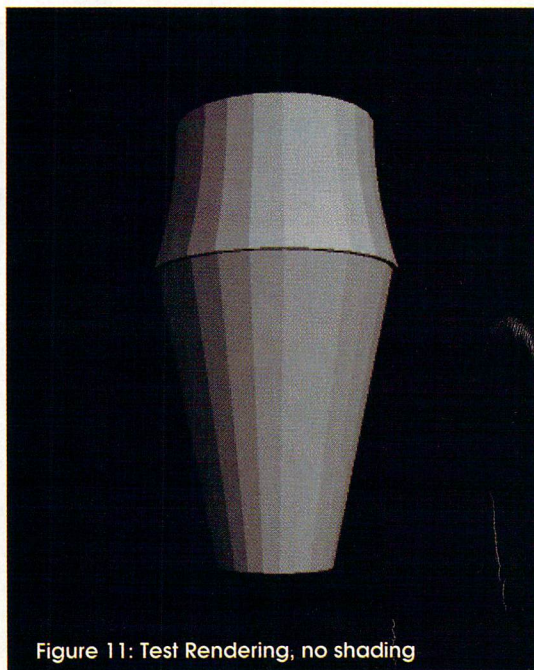


Figure 11: Test Rendering, no shading

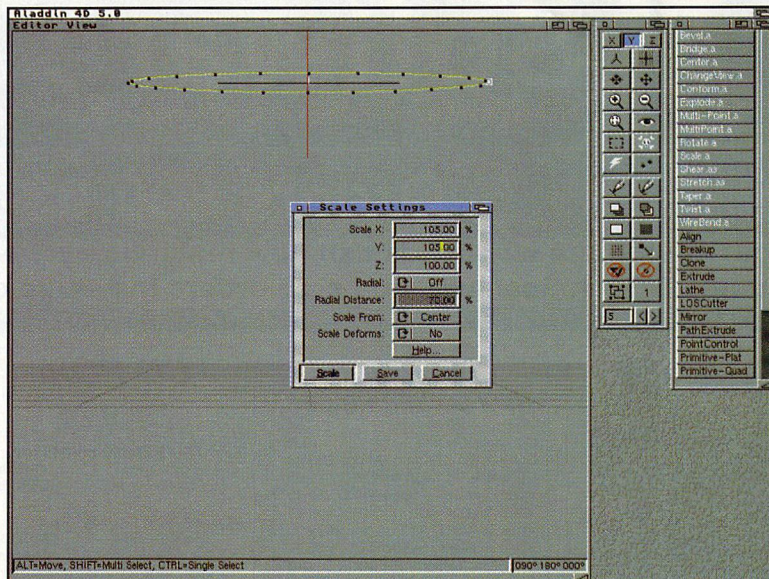


Figure 8: Scale Settings

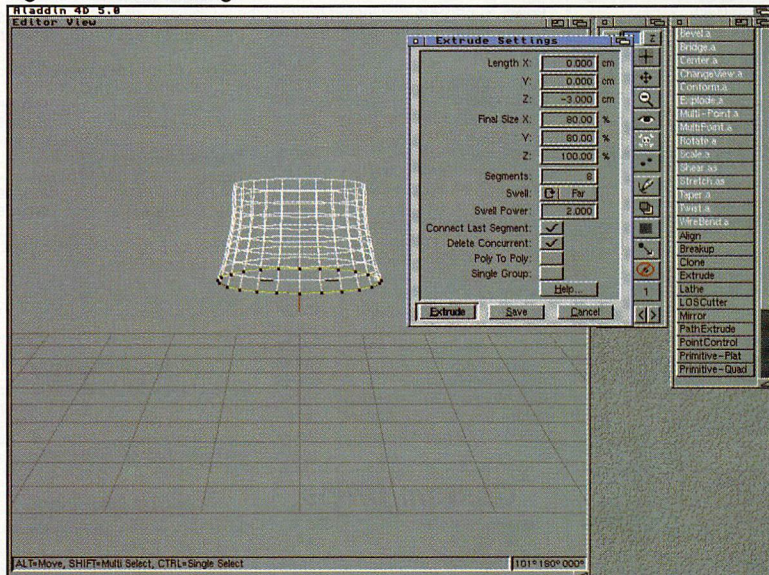


Figure 9: Extruding with Swell set to Far

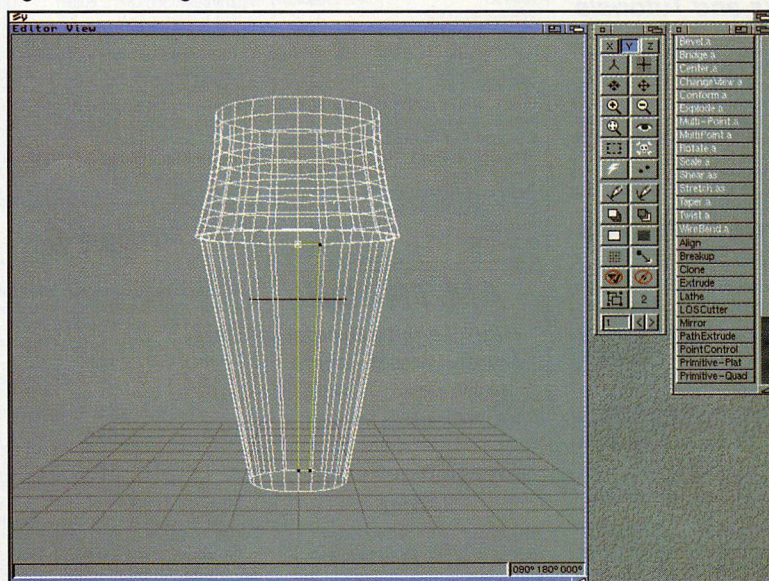


Figure 10: The Cutting Torch Head Object





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# This Old Workbench Episode 21:

## Building the Perfect Workbench, Part Four

Staying up to date on the latest versions can be tricky without VersionWB, choosing the best icons, improving the GUI and more.

By Dave Matthews

### A Version of the Truth

While installing all the latest goodies can be very helpful, it can also be challenging to keep everything up to date. An important bit of knowledge in this task is each file's version information. While the Amiga of course, has a version command, it has a few "issues" which make it less than ideal. Most important, is the inability to accurately report the version of a file on disk when that file is loaded into memory. For instance, if you run program foobar, which uses foobar.library, then run the version command on the new version of foobar.library which you've just downloaded, the version command

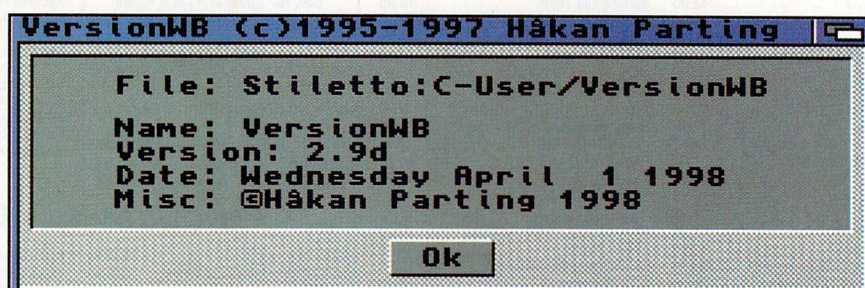


Figure 1: VersionWB

will report the old version, since it is in memory. Luckily, there is a solution, VersionWB, available on aminet: <http://wuarchive.wustl.edu/pub/aminet/util/sys/VersionWB.lha>

This Gift-Ware program, by Håkan Parting, not only provides more complete and accurate info, but it can be run from the workbench or shell, and features a filename requester, packed file support via XFD, and can set filenote and filedate to match the version information. See Figure 1 for the VersionWB requester.

### Icon Redux

(I know, I've covered most of this before, but I wanted to reiterate it in a little more detail, since this provides the foundation for later glory.)

One of the fundamentals of the graphical interface is the venerable icon. Since the icon plays such a large role in using the Workbench, we will start our customization there. Aside from the original Amiga icons, there are basically two different icon camps. The Magic Workbench and the NewIcons camps feature different technologies, artistic sensibilities and even philosophies. I have covered these two contenders in past episodes, so I won't go into great depth on

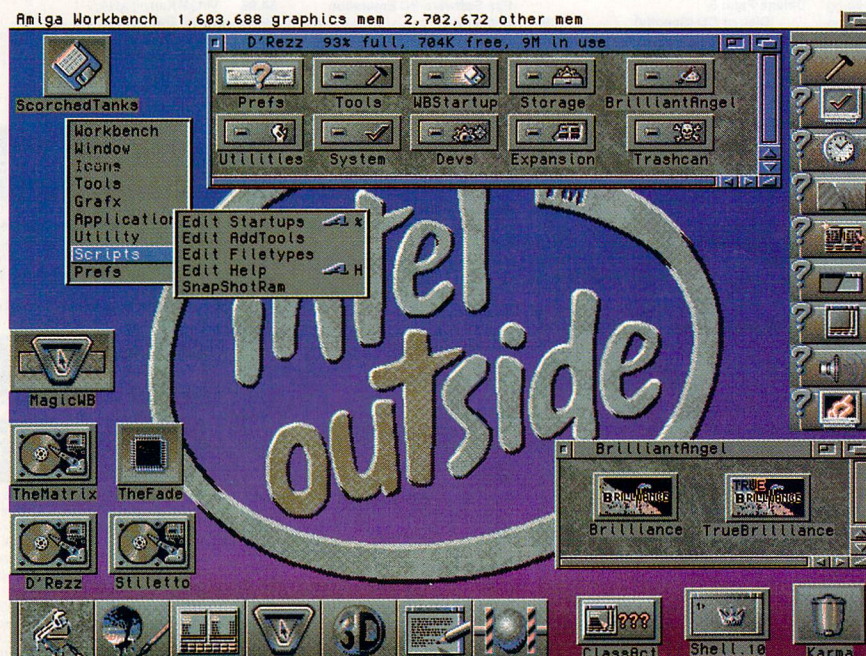


Figure 2: Magic Workbench



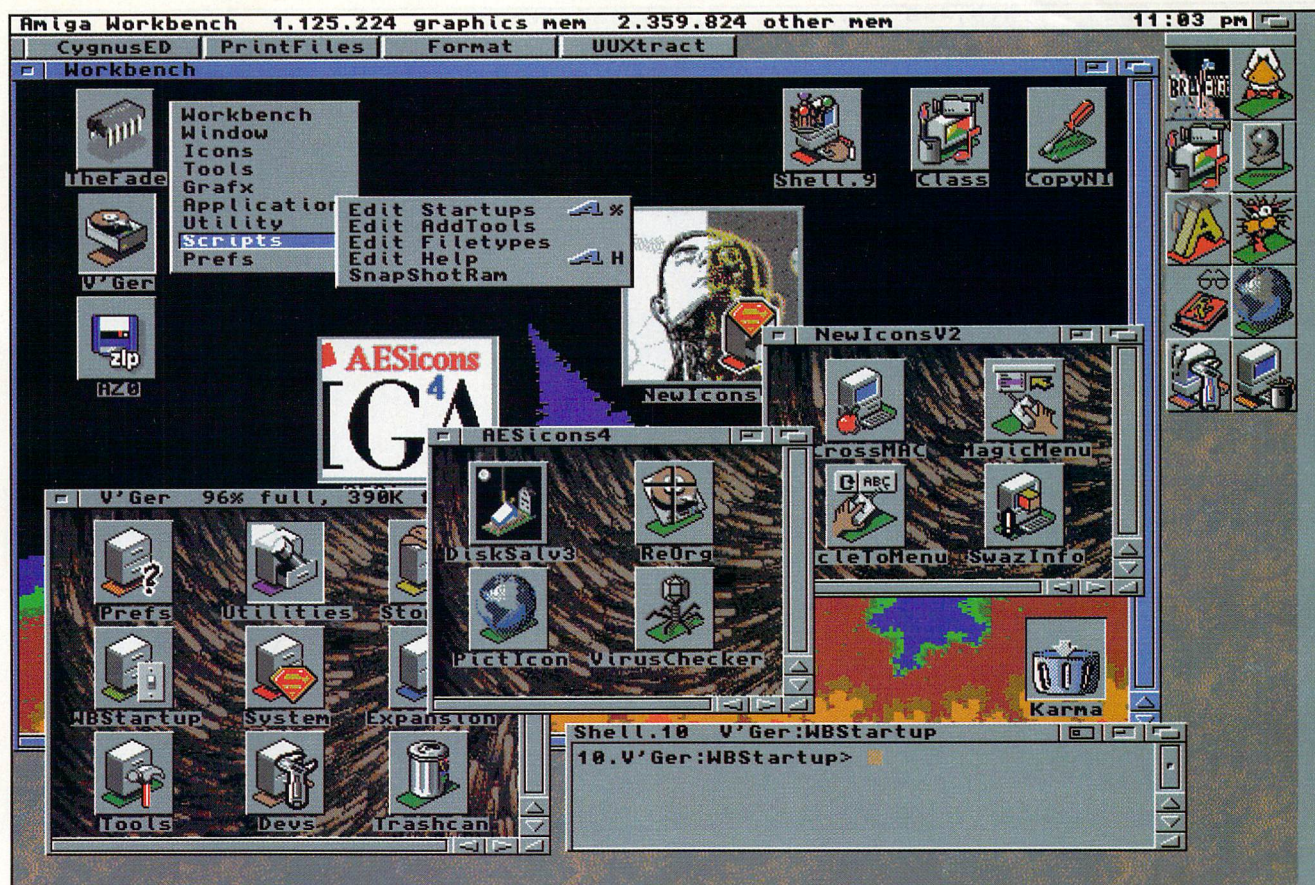


Figure 3: NewIcons

either, but I will just make a few observations.

The Magic Workbench icons generally have a more subtle color palette, and a stamped semi-3D look. They are also usually wider than they are tall. They are rather distinct in look and feel from the Mac or Windows icons. To get the best, you need careful control of your Workbench palette, which is provided via a patch which locks certain colors. See Figure 2 for a screenshot with the Magic Workbench treatment.

NewIcons on the other hand, uses a more sophisticated, perhaps more intrusive approach. NewIcons adds palette information to the icons, which allows the system to render the icon colors much more accurately, regardless of the palette. The icons in the NewIcons package have a completely different look than the Magic Workbench. They are generally more colorful, are taller than wide, and bear a certain resemblance to Windows icons. See Figure 3 for the NewIcons touch.

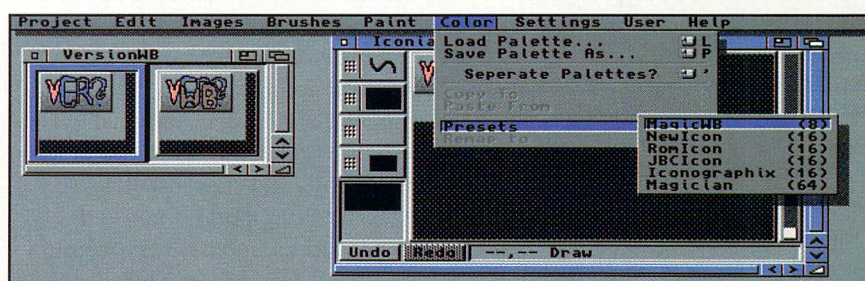


Figure 4: Icon Installer

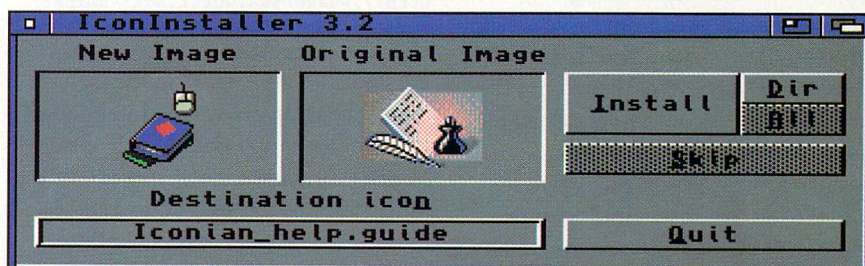


Figure 5: Iconian Icon Editor

When people discuss NewIcons versus Magic Workbench, it's generally taken as an either/or kind of thing. But in fact, you can use both together quite nicely. If you want the advantages of the NewIcons system,

but like the Magic Workbench icons, it is perfectly possible to convert the Magic Workbench icons to NewIcons. It's a fair amount of work to be sure, but there are a couple of programs that will help.



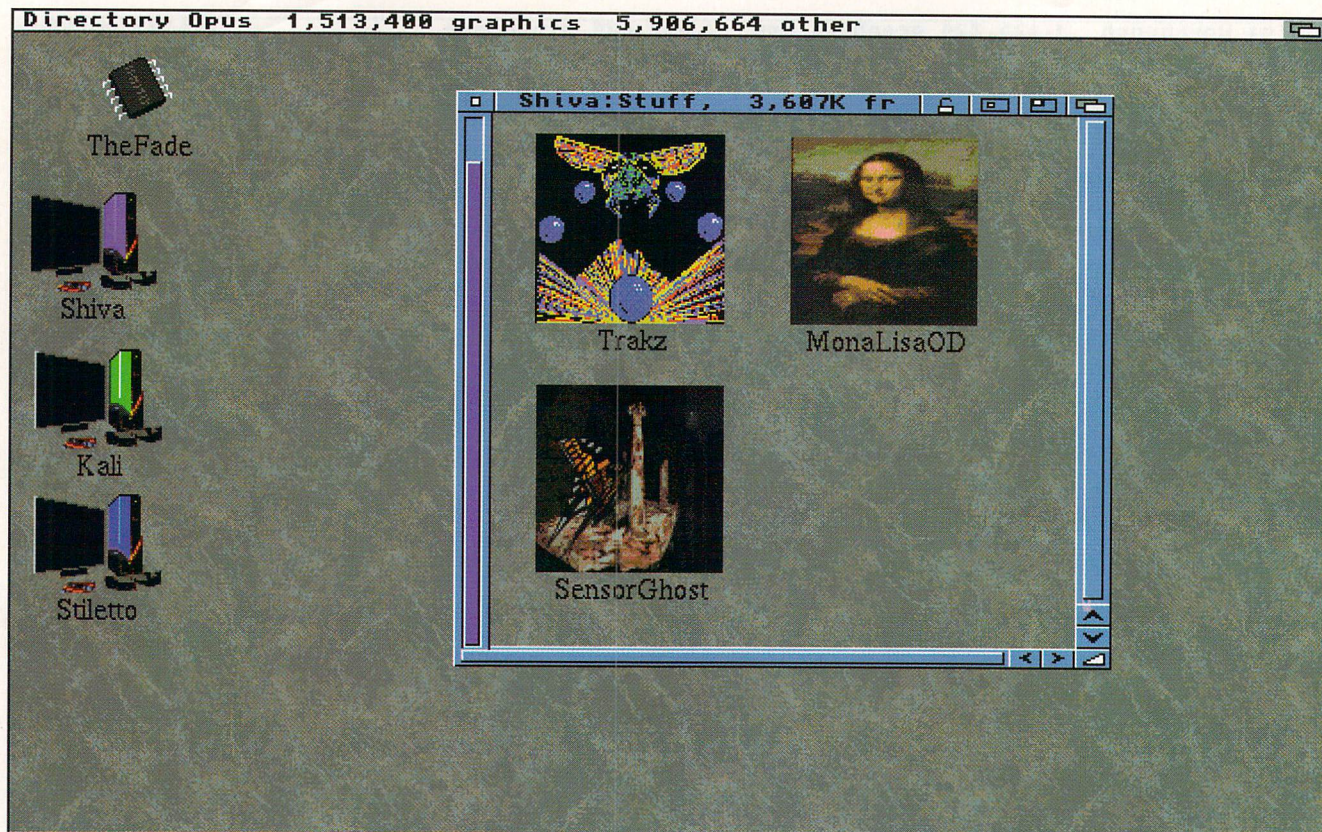


Figure 6: PictIcon in action

One such program is MWB2NI. This little freeware program will convert 8-color Magic Workbench icons into NewIcons:  
[http://wuarhive.wustl.edu/~aminet/dirs/aminet/util/wb/MWB2NI\\_2.lha](http://wuarhive.wustl.edu/~aminet/dirs/aminet/util/wb/MWB2NI_2.lha)

Whatever Icons you prefer, I recommend Iconian as an icon editor. Originally programmed by Chad Randall, and now in the hands of Dominique Dutoit, Iconian has a wealth of features, including support of NewIcons. Iconian can be very helpful in creating your own NewIcons, and converting Magic Workbench or other icons to NewIcons. Iconian has all the usual drawing tools, including freehand, lines, boxes, fill, multiple undo, many color remapping options plus a raft of other options for dealing with all aspects of Icon creation. It does have a few bugs, but nothing else is as handy, particularly for NewIcons. See Figure 4 for a screenshot.  
[http://wuarhive.wustl.edu/pub/aminet/gfx/edit/Iconian2\\_98t.lha](http://wuarhive.wustl.edu/pub/aminet/gfx/edit/Iconian2_98t.lha)

If you want to change the look of your icons, without messing up their tooltypes or other settings, you might want to download Icon Installer. This handy program features a drag and drop interface, drag the original icon to the right window, the new icon to the left window, and click install. Icon Installer will support normal and NewIcon icons, and it is very helpful when changing your icon scheme. See Figure 5 for the Icon Installer window.  
<http://wuarhive.wustl.edu/~aminet/dirs/aminet/util/wb/IconInstaller.lha>

One final program in the icon department, again by Chad Randall. If you are not happy with NewIcons or Magic Workbench icons, or any of the other designs, perhaps you would like to have something completely different. How about making icons out of pictures? PictIcon takes an image, and converts it to an Icon. It has lots of options to specify quality, dithering, size, etc., support NewIcons, and can give you a completely unique look. See Figure 6 for some samples.  
[http://wuarhive.wustl.edu/~aminet/dirs/aminet/util/wb/Picticon1\\_4.lha](http://wuarhive.wustl.edu/~aminet/dirs/aminet/util/wb/Picticon1_4.lha)

## Building on the Foundation

Although many of you out there refuse to answer the call, if you want access to many of the programs on Aminet, you will need to download MUI. Like Class Act, MUI is a development tool for programmers to help in the making of interfaces. MUI is rather larger than Class Act, and can be a bit slow on lesser Amigas, but the registered user has access to nearly total customization of the interface, including fonts, backgrounds, gadgets, etc.  
<http://wuarhive.wustl.edu/~aminet/dirs/aminet/util/libs/mui38usr.lha>

Another important addon is Class Act. This is a GUI development tool, and consists of various classes which aid programmers in making modern interfaces for their programs. You should download and install the latest classes (they're free), since many useful programs need them, such as the NewIcons preferences. You can get the latest classes at:  
<http://www.thule.no/classact/>



## Typescast your Data

Finally, lets have a look at datatypes. The Amiga's datatype system is very useful, but to really get the most from it requires heading to Aminet for some serious enhancing. There are dozens of datatypes for all sorts of purposes, including almost every exotic image format, animations and MPEGs, Mac and PC sound formats, and even datatypes for compression, binary and postscript files.

For this episode, I'm going to cover just a few of the datatypes in the visual area. First of all, the main datatype library has an update on Aminet, written by Roland Mainze, with several bug fixes and enhancements. This is not an official upgrade, but appears to be required by several programs, including Nova Design's ImageFX.

<http://wuarhive.wustl.edu/~aminet/dirs/aminet/uttl/lib/dtypes454upd.lha>  
<http://wuarhive.wustl.edu/~aminet/dirs/aminet/uttl/lib/dtypeslib453.lha>

Next we need to update the picture.datatype. The original picture.datatype has some limitations, including the inability to accept 24-bit IFF pictures. Note, if you are using the CyberGrafx software, then you should be using Ralph Schmidt's Picture.datatype:

<http://wuarhive.wustl.edu/~aminet/dirs/aminet/uttl/dtype/PictDT43.lha>

If you're using the Picasso96 software, then you already have the 24-bit picture.datatype. For the rest of us, first download and unpack the Picasso96 archive. Do not attempt to install! Just copy the picture.datatype to your Classes/DataTypes drawer.  
<http://wuarhive.wustl.edu/pub/aminet/gfx/board/Picasso96.lha>

That takes care of the general upgrade. Now we need to look at specific datatypes for each picture format we would like. First of course, we should have a 24-bit capable ILBM/IFF datatype. Stephen Rupprecht has provide just such an animal.



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<http://wuarhive.wustl.edu/~aminet/dirs/aminet/uttl/dtype/ilbmdt44.lha>

Note, for awhile, this datatype gave me fits. At some point in the development, the author disabled native Amiga support, which threw me for a loop when I could no longer view IFF pictures. Luckily, the latest version now works with native Amiga chipsets again.

This brings up a good point. Always install and test one thing at a time, and make sure you back up your system regularly. It may be time consuming and inconvenient, but it will save you time in the long run when something goes wrong. You can trust me, something will eventually go wrong!

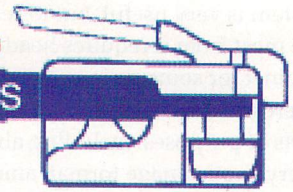
Once you have the ILBM datatype installed and working, then move on to other formats like JPEG, PNG, etc. For image formats that support 24-bit, like JPEG, PNG, TARGA and TIFF, look for datatypes which support the v43 standard. Some 24-bit capable datatypes:

<http://wuarhive.wustl.edu/~aminet/dirs/aminet/uttl/dtype/akJFIF-dt.lha>  
<http://wuarhive.wustl.edu/~aminet/dirs/aminet/uttl/dtype/akPNG-dt.lha>  
<http://wuarhive.wustl.edu/~aminet/dirs/aminet/uttl/dtype/TIFFDT.lha>  
<http://wuarhive.wustl.edu/~aminet/dirs/aminet/uttl/dtype/targatype.lha>

Well, that should do it for this episode. Next Episode, tools, tricks, and program launchers. As always, you can contact me via *Amazing Computing/Amiga* or by email: [dm05438@navix.net](mailto:dm05438@navix.net)

Also, as part of an effort to learn HTML and Web Design, I am starting an archive of This Old Workbench articles. There's (still) not much there yet, but you can see it at: [HTTP://www.geocities.com/SiliconValley/Hills/2359](http://www.geocities.com/SiliconValley/Hills/2359)  
Or, reach me through AC's author link at: [HTTP://www.pimpub.com/ac](http://www.pimpub.com/ac).





## JavaScript: updating a previous script and learning lots of new tricks on the way.

### Of Forms and Buttons

Up to now, all of our JavaScript examples have been stand-alone code. The script is run in our Browser, and the results displayed with no interaction from the user. This month we'll see how to use some standard HTML forms and buttons in combination with JavaScript.

The vehicle for all of this and more, will be a script to replace the one we wrote in the June issue. That script calculated how many days remained until the Fourth of July. Because of the way the script was written, it is only good for the one date. Unless you change the script and upload the new version to your web site as that date passes, visitors are informed that there are a negative number of days remaining. The new version allows the visitor to enter dates they wish to check.

### How many days until...?

Begin with the HTML tags to set up our page:

```
<HEAD>
<TITLE>How many days until...</TITLE>
<SCRIPT LANGUAGE = "JavaScript">
<!--

// ->
</SCRIPT>
</HEAD>
```

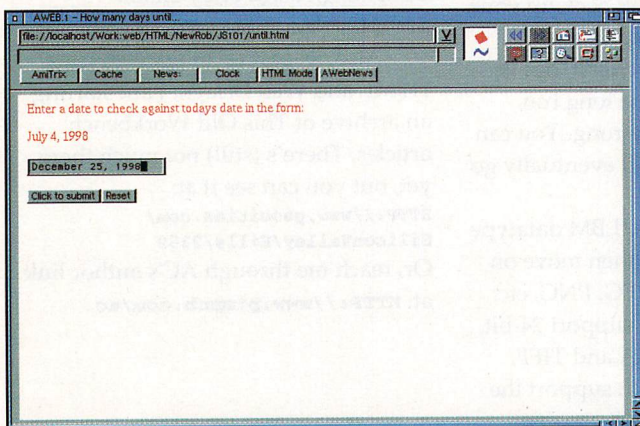


Figure 1: Now our web visitors can enter any date they wish to check.

This time we'll start with the body of the page, in between the tags. We print a line of text to the Browser, telling the user what format we want his date to be in:

```
Enter a date to check against today's date
in the form: July 4, 1998
```

Next, we'll add the HTML code to create a text input box, and two buttons. One of these will be a standard Reset button that will clear our text box for new input, and the other will send the text to our JavaScript. Add these lines under the text above:

```
<FORM NAME = "when">
<INPUT TYPE = "TEXT" NAME = "future">

<INPUT TYPE = "BUTTON" VALUE = "Click to submit"
onClick = "howLong()">
<INPUT TYPE = "RESET" VALUE = "Reset">
</FORM>
```

The first line in this fragment sets up the HTML form, and gives it a name we can refer to later. The second line creates the text input box, and names it. The third line inserts a blank line on our page between the text box and our buttons. The fourth line creates a button with the words "Click to submit" on it. Then we use the JavaScript onClick

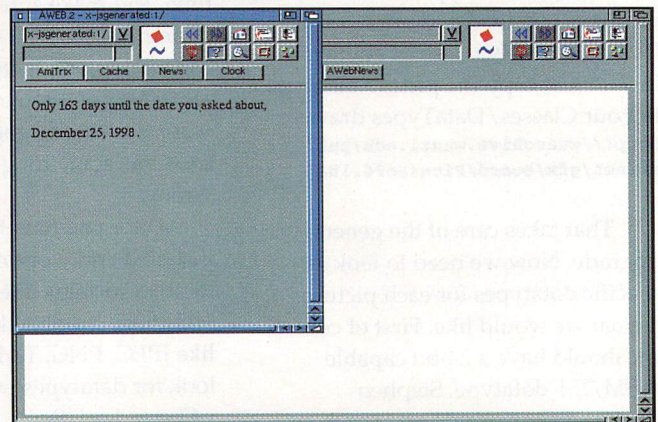
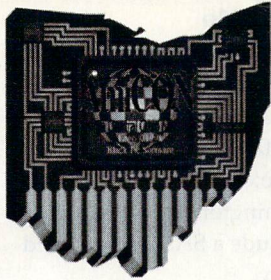


Figure 2: Print the answer in a new window, and don't clutter the main window.





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event handler to detect the user clicking their mouse button. Because this is inside the HTML tag that creates the button, only a click on the button is detected. When this happens, our `howLong()` function will be run (more on this in a minute). Finally, a Reset button is created, and the form is closed.

The `howLong()` function mentioned above is one we'll write ourselves. Previously we have used JavaScripts built-in functions, but you can write your own to cover unusual situations. A function is a set of instructions that are enclosed by curly braces `{ }`. These are given a collective name, so that you can invoke the function from elsewhere on your Web page. All functions begin the same way, by declaring that the following commands are a function, giving the function a name, and an opening curly brace. After the lines to set up and then hide the JavaScript section of our web page, add this:

```
function howLong(){
```

We've declared a function named `howLong()` is coming up. Everything between the opening curly brace and the closing one will be executed whenever we call the `howLong()` function. Now add these lines:

```
var now = new Date();  
var then = new Date(document.when.future.value);  
var gap = then.getTime() - now.getTime();  
gap = Math.round(gap / (1000*60*60*24));
```

The first line of this fragment is the same as in our June script. It creates a new Date object named "now". The next line is similar, but with a twist. The Date object created here (named "then") specifies where the date and time for the object is to come from. This is where naming our form and text input box pays off. We are asking for the date and time based on the "value" found in the "future" text box, in the "when" form, in the current "document".

Next, we subtract the value (in milliseconds) of "now", from the value of "then", and store the result in the variable "gap". Then we convert the number of milliseconds into days, and put that number back into "gap". The one difference between this line and the same line in the June script, is the rounding function used.

In June, we used the `.floor` method of the Math object to round our fractional number of days to the next lower whole number. This time, I've chosen the `.round` method to round any fractions to the nearest whole number.

Finally, to display our answer, we could simply output to the browser window. However, a neater way to handle this is to open a new browser window, and print the answer there. Add these lines to those above:

```
dateWin = window.open("", "", " width=300,  
height=250, scrollbars=yes");  
dateWin.document.write("Only "+gap+" days until  
the date you asked about,  
"+" "+document.when.future.value+" .");  
dateWin.document.close();  
}
```



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Please include a SASE if you need a personal reply.

If you run an Amiga specific BBS, send me the information callers will need to access your system. Phone number(s), modem speeds, software settings, etc. As a service to the Amiga community I will include the information I receive in this column from time to time.

If you come across any World Wide Web sites you feel would be of interest to the Amiga community, pass them along for inclusion in the HotList of the Month. Send the info to any of my addresses above.

That's all for now. See you on line!

•AC•

The first line does the work. We've named our new window "dateWin", but that's not strictly necessary in this script. A named window gives you some control of the window from within your script. We use the .open method of the Window object, which can take three sets of parameters in quotes. The first is for an Internet Uniform Resource Locator (URL), the second is for a name in the title bar, and the third defines the windows attributes. The URL (if supplied) determines the contents of your new window. You can supply either a URL or a filename, such as page.html. Since we want to display our answer, we'll leave this blank.

I also left the name parameter blank, but feel free to title your output window. Next define the size of your window in pixels, and add any special properties you want your window to have. These can be a toolbar, a menubar, a status bar, scroolbars, and resizing gadget. Leaving any of these out of your attribute definition is equivalent to setting the attribute to "no".

Next we do a document.write to the dateWin to display the answer, and remind our user of the date they asked about. Then we close the output to the new window. This last is required if you are writing to any window other than the current one. The last line of this fragment is the closing curly brace to mark the end of our function.

The entire script is shown in listing one. When the page is displayed, the JavaScript is hidden by the comment tags (Figure 1). After the user types a date into the box and clicks the submit button, the function is called and executed, causing the number of days to be calculated, the new window opened, and the answer displayed (Figure 2).

If you prefer not to type, this can be found on my web site by following the Amiga, and JS101 links.

## Listing 1

```
<HEAD>
<TITLE>How many days until...</TITLE>
<!-- From the September 1998 Amazing Computing -->

<SCRIPT LANGUAGE = "JavaScript">
<!--
function howLong(){
var now = new Date();
var then = new Date(document.when.future.value);
var gap = then.getTime() - now.getTime();
gap = Math.round(gap / (1000*60*60*24));
dateWin = window.open("", "", " width=300,
height=250, scrollbars=yes");
dateWin.document.write("Only "+gap+" days until the
date you asked about,
"+" "+document.when.future.value+" .");
dateWin.document.close();
}
// -->
</SCRIPT>
</HEAD>
```

Enter a date to check against todays date in the form: July 4, 1998

<FORM NAME = "when">

<INPUT TYPE = "TEXT" NAME = "future">

<INPUT TYPE = "BUTTON" VALUE = "Click to submit"
onClick = "howLong()">

<INPUT TYPE = RESET VALUE = "Reset">

</FORM>



# Recent History! Did You Miss The July Issue?



## Volume 13 Number 7 July, 1998

**New Products & other neat stuff,** Air Mail Pro v3.0, World News v1.0, PanCanvas: Motion Control for ImageFX, and more!

**That Lived-in Look,** Often, computer generated art just looks too clean! LightWave 5 offers almost an infinite variety of ways to "dirt-up" your detailed computer generated imagery, by R. Shamms Mortier.

**Aladdin 4D: Cutting Torch Animation Project, Step 1:** Creating an animation first requires a detailed knowledge of what the animation will do, what it will need, and how it will be used, by Dave Matthews.

**Applying Textures to Fonts and Clip Art,** Using textures to create just the look you want in your documents and art, by Nick Cook.

**On Line,** Catch the news on the latest versions of World News for newsgroup reading and Air Mail Pro for e-mail, by Rob Hays.

**This Old Workbench: Episode 19 Building the Perfect Workbench Part 2,** Real world perfection differs from user to user. Here are a few ideas on how you can maximize your Amiga to provide the perfection you want, by Dave Matthews.

**Linux/Amiga: Do You Have an Account with Us?** Part One: Learning the Linux hierarchy, key phrases, and setting up your accounts.

**Unix on the Amiga Part 2,** Installing the software, by Antonello De Santis.

**Amiga Inc.'s Announcements,** Amiga Inc. has an approved plan: Amiga Bridge, 4.0, Convergenceware, Amiga OS 5.0, and more!

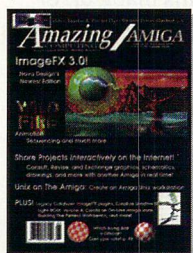
**World of Amiga LONDON 98,** The latest news and releases from the world's second largest Amiga show.

**Allan Havemose,** Dr. Allan Havemose, Head of Development for Amiga Inc., is Amiga's next generation?

"I don't get a single technical journal that covers as much important information as your February issue did, even in magazines 10 times as thick. There was news in there that had not been made stale by the plethora of news on the Web."

Steve Shireman

# High Praise! Did You Miss An Issue of AC?



## Volume 13 Number 6 June, 1998

**New Products & other neat stuff,** Video Toaster Flyer Systems Sale, Another User Group Deal, Amiga Soundtrack, and more!

**ImageFX 3.0,** Nova Design has once again proven the Amiga's graphic might, by R. Shamms Mortier.

**The Legacy Catalyzer Videos and ImageFX Plugins,** Tools in a new era of ImageFX and Amiga graphics, by R. Shamms Mortier.

**Light ROM: version 4,** 3,000 JPEG textures plus much more makes this a special addition to any Amiga artist's tool box, by R. Shamms Mortier.

**Me & My Shadow,** Creative shadow effects, by Nick Cook.

**On Line,** Updates to Miami and VoyagerNG plus, "count down days" with JavaScript, by Rob Hays.

**This Old Workbench: Episode 18, Building the Perfect Workbench Part 1,**

Learn what all the Amiga's directories do and how to further "Shock-Proof" your system, by Dave Matthews.

**AmigaOnLine.com NOTES:** Safe Harbor is offering online stores to web sites, AmigaOnLine.com is delayed, and more.

**Interactive Image Viewing on the Internet with the Amiga,** Medical images, paintings, sketches, floor-plans, schematics, and more can be shared and revised online, by Michael Tobin, M.D., Ph.D.

**Wildfire—Animation Sequencer,** Assemble an animation, combine animations and stills, generate special effects, create transitions, and even add frame synchronized sound effects, review by Dave Matthews.

**Unix on the Amiga,** Turn your Amiga into a powerful Unix workstation. Preparing your system and gathering the software, by Antonello De Santis.

**Which Boing Is Official?** There are two Boing Balls used as the official emblem of the Amiga. Which would you like to see as the Amiga's main symbol?

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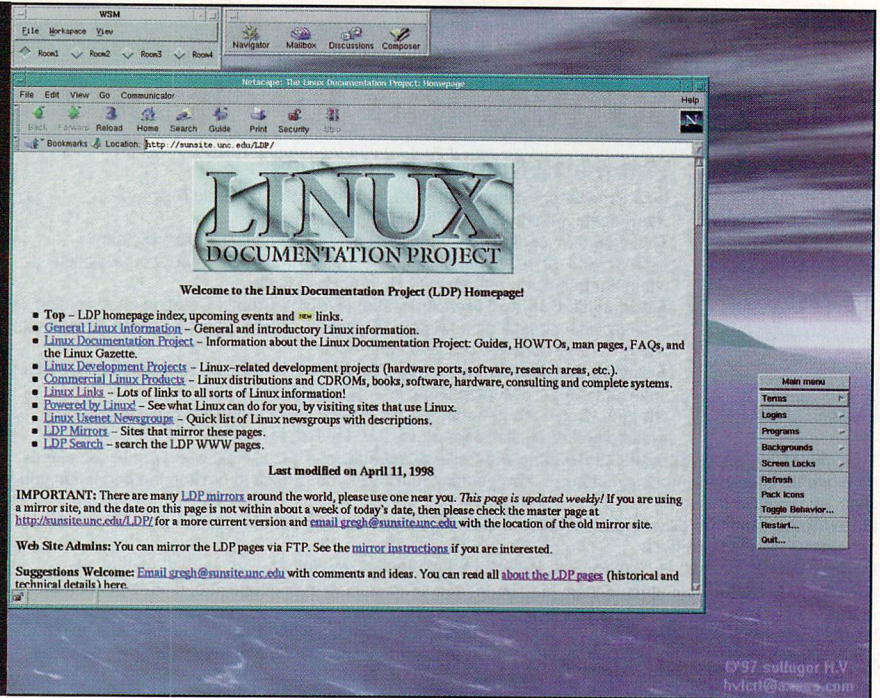


# Unix on the Amiga!

## Turn your Amiga into a powerful Unix workstation.

Software to make your Unix-based Amiga more efficient and productive.

By Antonello De Santis



This desktop is not very nice, but Mwm is really one of the best window managers available.

Now that you have installed NetBSD on your hard drive and made it a bit more user friendly by installing the bash shell, we can start giving a more in depth explanation about Unix OSs.

### Unix Filesystem

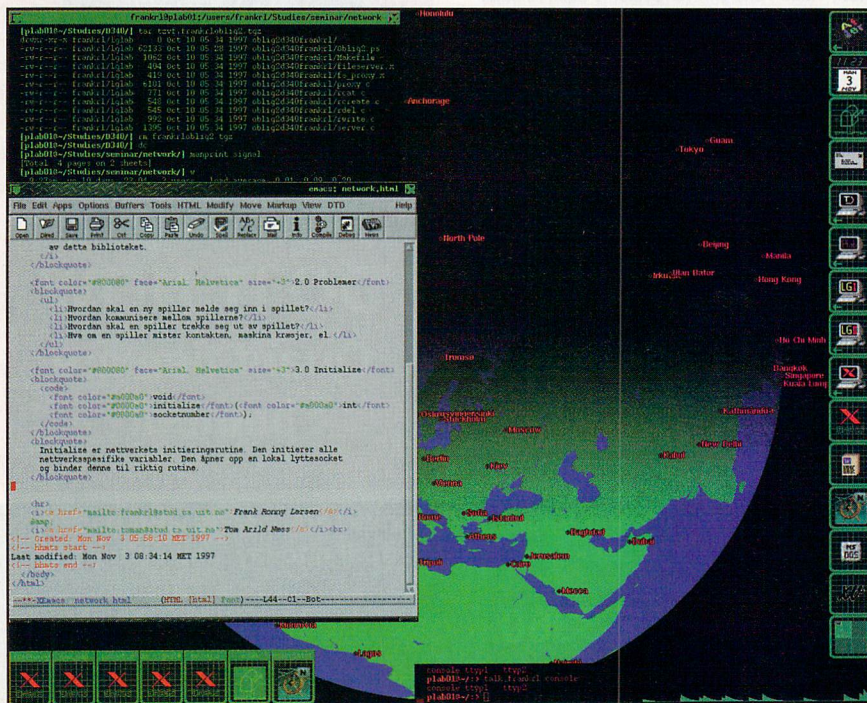
The filesystem is one of the most important parts of an operating system,

you can try to optimize memory management or processor scheduling algorithms, but memory and processor are very fast by definition and the user can't notice if a memory access has taken 2 or 4 microseconds. Hard drives and floppy drives are much slower instead, in so far as accessing data requires a mechanic movement of the

head(s), that can take seconds. Microseconds are not tangible, but seconds are. So an efficient OS must include a good filesystem. I won't talk about the technical implementation of NetBSD's filesystem for now, but I will focus mainly on the user's point of view of it.

Unix filesystem allows users to define logical filesystems made up of several physical filesystems. What does it mean? Remember the Unix directories' tree in the second article (*Amazing Computing/Amiga July '98*), that is a logical filesystem.

Now suppose you create a directory `"/Amiga"` and mount an Amiga DOS partition on it, what's happened? You have added a physical filesystem to the logical one. When you access directory `"/Amiga"` you have changed to a different filesystem, partition or even physical hard drive! This all has happened in total transparency. The user doesn't know whether he is working on a Unix, Amiga or MS-DOS filesystem. He goes on working on files, directories and subdirectories as if he is using a unique filesystem. That is the logical filesystem. Let's see now a bit more in depth how you can mount drives and partitions under Unix.



Another Afterstep based desktop. Very nice and user friendly.

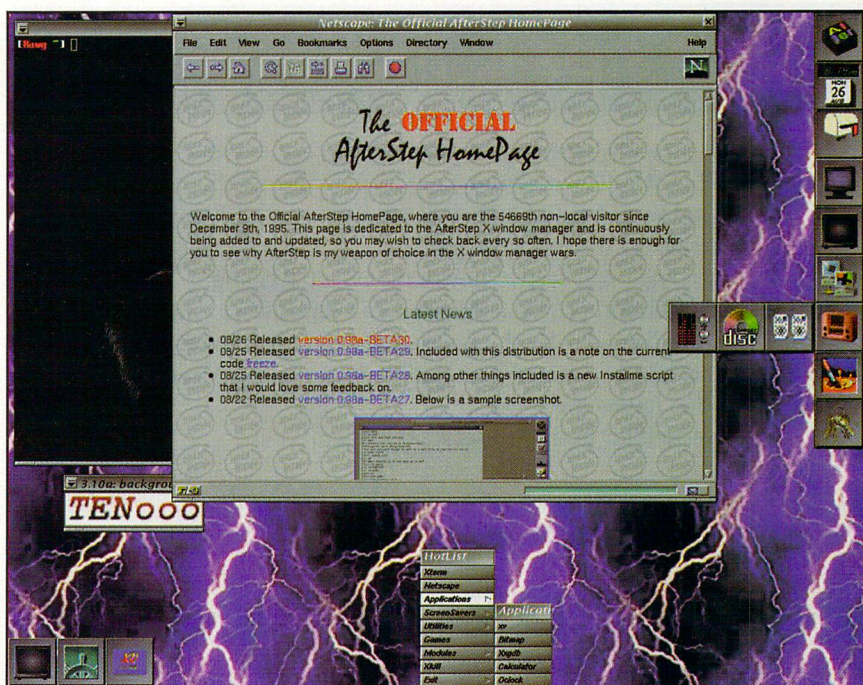




This is surely the most astounding looking window manager: Enlightenment—only for fast processors and graphic cards.

First of all, you need to know the name of the partition you want to mount. You can accomplish this by running the command "disklabel sdX" where x is the number of the physical hard drive where the partition is located. This command, you should remember, shows you all the partitions on the selected hard drive. Once you have located the partition's name you will need a mount-point, that is, a directory that "points" to the partition.

Create a directory wherever you want and finally run the command "mount". The general syntax to mount a partition is: "mount -t filesystem -o options /dev/sdXX /mount-point". Suppose you want to mount the MS-DOS partition "sd1e" on directory "/usr/local/drives/dos"? You would run the command: "mount -t msdos -o rw /dev/sd1e /usr/local/drives/dos". Now if you cd to "/usr/local/



This is Afterstep window manager, do you notice the similarity with NeXT OS?



drives/dos" and run the command "ls -la", you will see the contents of MS-DOS partition "sd1e".

There are many different filesystems supported by NetBSD, take a look at the manual pages of "mount" and "fstab" if you want to know all of them. You may wish to make all your Amiga or MS-DOS partitions permanently mounted under NetBSD. You can do this by just adding some lines to the "/etc/fstab" file.

Our box in the July issue explained what the fstab is and the meaning of each field. If you want Amiga partition "sd0f" to be directly mounted on the directory "/work" at boot time, you have to add this line to fstab: "/dev/sd0f /work ados ro 0 0".

Remember that Amiga partitions can be mounted read-only. This is why you have to use the options "ro" in the third field. If "sd0f" was a MS-DOS partition and you wanted to mount it read-write you should have written "dev/sd0f /work msdos rw 0 0" instead.

For floppy drives, the mount procedure is similar. If you want to mount a MS-DOS floppy in drive df0: on directory "/floppy", you should insert the diskette and then type in: "mount -t msdos -o rw /dev/fd0b /floppy". If it is an Amiga diskette you

should type in: "mount -t ados -o ro /dev/fd0a /floppy".

Mounting a floppy disk at boot time and modifying the fstab is not very useful since you should always keep a diskette inserted in the drive. I explained a procedure to mount floppies in a simpler way than always typing in that long command line in my second article. For any MS-DOS floppy, you should add this line to fstab: "/dev/fd0b /floppy msdos rw,noauto 0 0". The option "noauto" tells the OS not to mount /dev/fd0b automatically at boot time, but "assigns" /dev/fd0b to directory /floppy so that, when you type in "mount /floppy", the OS already knows you want to mount a MS-DOS disk inserted in drive df0: on directory /floppy.

REMEMBER! Every time you modify the file /etc/fstab you must check if you have made some mistakes, by running the command "mount -av". This command will try to mount all devices specified in /etc/fstab, if it returns some errors, then you have to check the file fstab and see what's wrong before rebooting. If you reboot and something in your fstab is wrong, you will run the risk of not being able to log into the system anymore. So be careful! Check the box "Tips & tricks"

to see what to do in case some of your configuration files have been damaged.

## First Steps in Unix.

I suppose those of you who successfully installed NetBSD on your hard drive, have already started moving around your new system and should now be a bit familiar with it. Now, let's talk about some of the most important commands you need to know to use NetBSD more efficiently.

## Viewing Text File Commands.

Every Unix OS comes with several commands to manipulate text files, the ones you will mainly use are: cat, more, tail and grep. "Cat" is used to view a text file. Its syntax is: "cat filename". It is not very convenient to use with very long files, since when a file is made up of more lines than your monitor can display, you'll be able to see only the very last lines, the other ones will scroll over the screen. Cat is mainly used to print text files, but I'll talk about that later.

The command you will mainly use to see text files is "more". It doesn't have the limitations of cat, in fact when a file is made up of more lines than your monitor can display, it will stop after the first N lines and it will show the next N lines only when you press the space bar. If you want to see the lines one by one, you simply have to press the carriage return or the arrow keys. The syntax of more is: "more filename".

More also allows you to search an expression within the file you are viewing. The option to search an expression is: "\expression". Then you can simply press "n" to search the next occurrence of the expression. If you need to see only the very last lines of a text file, it is very inefficient to use both cat or more, because, if the file is made up of thousands of lines, it will take forever to get through the whole file.

The command "tail" is very helpful in this case. The general syntax of tail is: "tail filename". By default it shows the last ten lines of the file. You can use the option "-n" to select the number of lines to view. If you type in "tail -n +20 filename" you will see all

## Tips & Tricks

It is possible, when you try to modify some configuration files of NetBSD, if you commit some mistakes, at the next boot the system will not work properly. There is only one way to fix this situation—replacing the configuration files.

My advice is to keep a copy of the essential configuration files of NetBSD on a floppy disk. You should keep at least: /etc/fstab, /etc/rc and /etc/rc.local. These are the files that, if corrupted, may cause a dramatic crash of your system. If you find yourself in such a situation follow these steps:

- 1) boot NetBSD in single user mode: "loadbsd -b netbsd".
- 2) when the system is loaded insert the floppy with the configuration files and mount it.
- 3) mount -av
- 4) copy the working configuration files from the floppy to the right location in the hard drive. Now your system should be fixed and run again at the next multiuser mode boot.



the lines from 21 to the last one. If you type in "tail -n -20 filename" instead, you will see the last 20 lines of the file.

Let's now examine the "grep" command. Grep is used to find an expression within a file, it returns every line containing an occurrence of the searched expression. The general syntax of grep is: "grep expression filename". It is a shame to reduce the description of grep to only a few lines because grep is really a gem of a program! Just a few kbytes of code realizes something that can even be considered a language interpreter. The expression you want to search is not limited to a word like "dog", "mum" or similar, it can even be a so called "regular expression".

What is a regular expression? It is an expression defined by well grounded grammar. I know that this definition doesn't mean anything to the majority of you. Speaking of grammars and regular expressions would require a whole article, maybe later I'll start explaining a bit of Perl programming. Check the manual pages concerning grep if you want to know how to search the lines of a file containing an occurrence of a given regular expression.

### Processes Control Commands.

Even the most solid and efficient operating system can have program crashes or deadlocks. Often, one of the differences between "OS" and "os" resides in the way they behave in case of a program's crash. In some cases, a crash of a program blocks the whole operating system. In other cases, the program that crashed remains in memory but doesn't affect the execution of other tasks.

Unix-like operating systems give you TOTAL control of every job being accomplished at any given time. You can stop every program in every moment and the memory allocated is freed—and without losing a byte either. I will use the words process and program as if they were synonymous, there is a difference between them, but, at this level, we can use both words as if they had the same meaning.

In every Unix-like OS, a PID (Process IDentification) is assigned to every program going to execution. This PID is a number that identifies every process. In a multitasking system, it is strictly necessary for each process to have its own PID, else it would be impossible for the operating system to decide when to load a process into memory or when telling a process waiting for a resource (i.e.: access to printer), that the resource it requested is now available. This little introduction helps to explain the processes control commands "ps" and "kill".

The command "ps" shows you all active processes, their PID, state of execution, CPU time and controlling terminal. The syntax is very simple, you only have to write in "ps" and press the carriage return. The "kill" command is used to stop a process in execution and free all memory allocated to it. The general syntax is "kill -9 PID". If a program crashes or if you simply want to quit it for some reasons, you have to follow these steps:

- 1) ps
- 2) check the PID of the program you want to kill
- 3) kill -9 PID

### Links to files and directories.

NetBSD, as well as every Unix OS, gives you the possibility to create a symbolic link to a file or directory. Let's see in practice what a link is. Suppose you unpack a new program in directory "/usr/local/program/" and the executable is "prog.exe". The directory "/usr/local/program" is not in the system path, so, if you want to run "prog.exe", you have to cd to its directory and then launch it. This can be very annoying at times and a link is very useful in this situation.

You know that "/usr/local/bin/" is in system's path and every executable file in system's path can be run just by typing in its name in spite of what directory you are in. If you run the command "ln -s /usr/local/program/prog.exe /usr/local/bin/prog.exe", you will link "/usr/local/bin/prog.exe" to "/usr/local/program/prog.exe". From now on "prog.exe" will be virtually in "/usr/

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local/bin/", but physically in "/usr/local/program". Note that "prog.exe" in "/usr/local/bin/" is not a physical copy of that in "/usr/local/program", it is just a link and doesn't steal room from the hard drive.

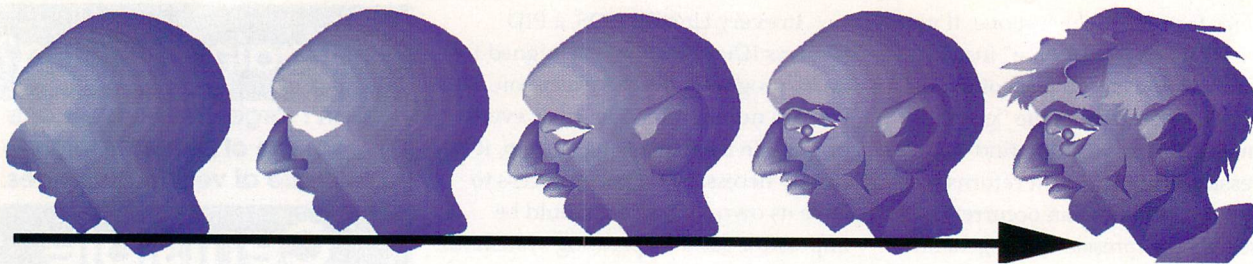
You can create links to directories as well. If you installed X11, you have noticed the long path of some configuration files is hard to type in and it's also easy to get confused and lose your way in the directories' tree. A link to a directory is very helpful in this situation too. If you run the command "ln -s /usr/local/X11R6.1/lib/X11/xinit/ /x", all you'll have to do to access the files in "/usr/local/X11R6.1/lib/X11/xinit/" is type in "cd /x". The link will automatically bring you to the real directory. The general syntax to create a symbolic link is "ln -s /source /destination".

### X11 Window Managers

This month I have included pictures (see pages 34-36) of some nice window managers available for X11—great stuff isn't it? The pictures are grabbed from the Intel version of Linux and X11 because there are no programs to grab screens under NetBSD yet. Don't worry though, on a NetBSD Amiga+graphic card you would get the same appearance! That's all for this month fellow Amigans! See you next month!

•AC•





## DPaint Cut-Paper Portraits

Use HI-LIGHT Fill and other commands in DPaint to create your own caricatures for DTP and web use.

by R. Shamms Mortier

### DPaint marches on

Just like the Amiga, DPaint keeps going and going. Although Electronic Arts abandoned DPaint upgrades a long time ago, you can still find buckets of new ways to do things with this old war horse. In fact, DPaint on the Amiga, as a video painting and editing application, was at a place years ago that Mac and Windows painting software is still hard pressed to keep up with today. Many DPaint tools still have no equivalent in any non-Amiga paint programs. Plus, DPaint is probably owned by more people than any other Amiga software. Even at this stage of the game, many of you keep writing and sending e-mail, asking for more DPaint tutorials.

### Say "Hi"

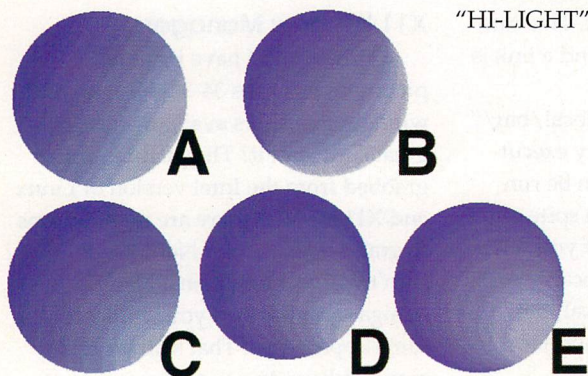
In this session, we will focus on a special tool in DPaint (version IV and up), accessed by clicking on the "Hi" (for "Hi-light") button in the Fill requester (that's the requester accessed by pressing a right mouse button over the paint can icon in the toolbox). The operations in this requester are similar in that they target a selected area on the screen for a gradient fill, but the options offer you ways to control both the direction and flow of the fill in a shape. As we'll see, that can be a first step in creating new painting looks for your projects.

The options in this requester cover the five ways to fill an area with a gradient: LINE Fill, SHAPE Fill, CIRCULAR Fill, CONTOUR Fill, and HI-LIGHT Fill. Explore each of the five. Notice the differences in the gradation of tones, and how each curves inside the shape it addresses. A "HI-LIGHT" is the area of a surface

that catches the maximum intensity of the light that is directed its way. These bright spots add a bit more reality and interest to any surface. If you're working in a register color mode (2, 4, 8, 16, 32, 64, 128, or 256 colors), you'll notice that the gradients have visible boundaries or striations. Instead of pretending this isn't so, and trying to hide them by dithering, we will use this artifact as part of a media look.

The first preparation to take in this tutorial is to go to the palette requester (keyboard "p") and set a smooth range of shades in any color. This is done by selecting a light or dark shade at the first paint pot, and then its opposite value at the opposite end. Then set a "Spread" of colors from one to the other, which gives you a nice range of in-between values (use the RGB setting). Work in Hi-Res whenever possible, with any number of colors from 16 to 256 (AGA).

If you use HAM modes, you will notice a much smoother look to your work. I prefer the look of non-HAM Hi-Res, because I think the "banding" that takes place is useful to the effect that I am trying to achieve. You might not like it, and may opt for HAM instead, but at least explore the Hi-Res option first. 256 color Hi-Res offers a better smoothing around the edges of figures due to the presence of more pixels on the screen, and HAM offers better dithering (smoothing between colors) because it has more colors to



The five "Hi" fills: LINE Fill (A), SHAPE Fill (B), CIRCULAR Fill (C), CONTOUR Fill (D), and HI-LIGHT Fill (E).



**Left: The development of a cut-paper character, using the gradient fills as a step in the process.**

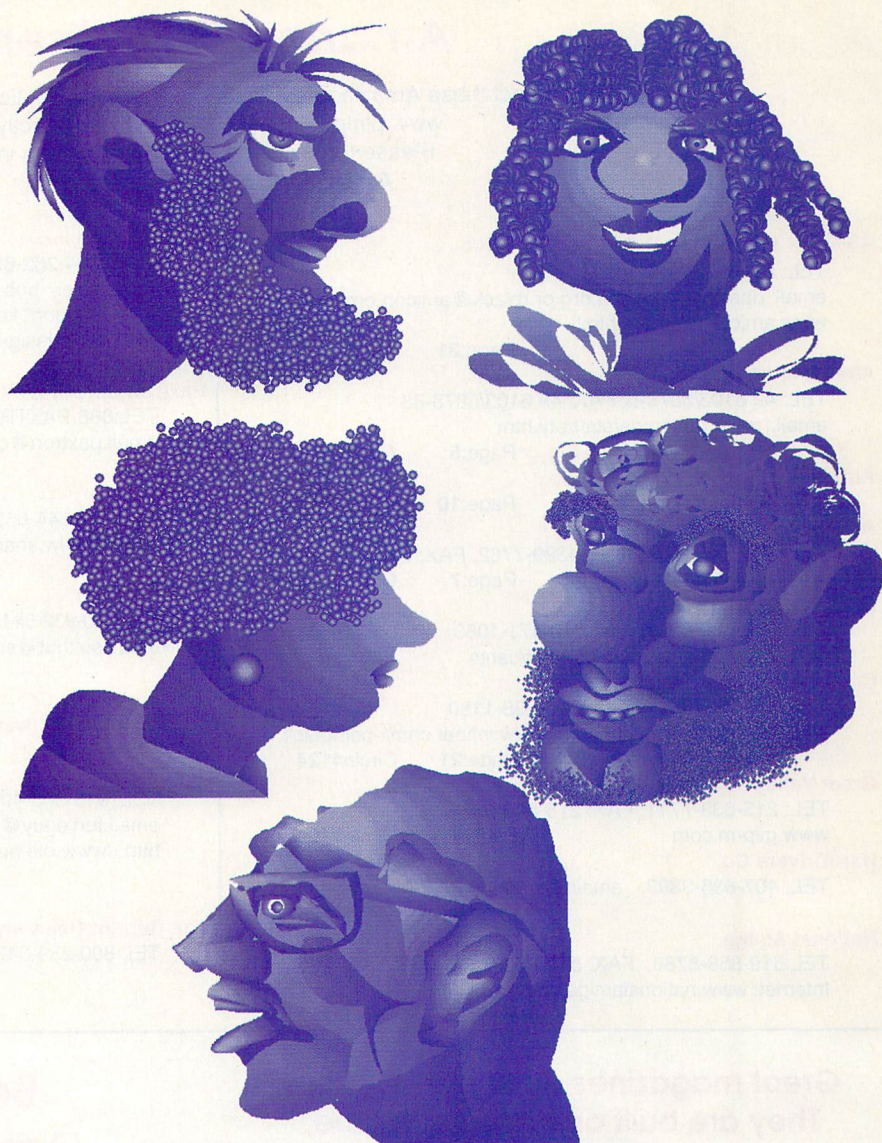
choose from (4096 in the entire palette, with 256 on screen at once in DPaint IV). Hi-Res provides a "cut paper" look, while HAM gives a more metallic feel. HAM Hi-light fills also have a star-burst effect in the quality of their appearance, which is OK as long as it matches the look you want to achieve. My desire was to create a series of caricatures, portraits with exaggerated features, that mimicked some of the styles I prefer and have seen used in newspaper political cartoons.

I am always finding new ways to alter both my style and the steps I use in the process, so I never really use the same procedure twice in the same way. The picture at the top of the previous page gives you an idea of how one might build a paper-cut caricature in an orderly process. My main tool for these figures is always the free-fill tool that is accessed by clicking on the lower right of the free-draw icon in the DPaint IV toolbox.

One thing to remember about the Highlight option is that after an area is drawn that will be filled, a line attaches itself to your pointer. The direction of the line indicates where the "light" will come from. The distance from the area to where you click on the end of that line on the screen indicates the presence or absence of the first colors in your palette. Clicking on the center of a filled area will create an area that has your first shade or color in the center, and then a spread of the remaining shades. Like any artist's tool, it's always best to give yourself some discovery time before attempting to create your final work.

## Facial Hair

You can create a "beard" on the face of your caricatures in the following manner: First, paint a small sphere (hi-light tool still on), and pick it up as a brush. Then, using the airbrush tool, paint the beard on the face. The actual "hi-light" on the small sphere was placed in its center, making it very much a 3D-like object. When you



**A selection of finished cut-paper characters.**

become immersed in your work, discoveries lead to further experimentation, all of which expands your artistic behavior and adds to your playfulness. You can also make the airbrushed spheres very small, which is great for eyebrows and other facial features. To create the look of curls, use a larger sphere and airbrush it in curved directional lines.

Where to use art created with this method?

1. Use this media in your DTP work, especially for political cartoons. It's fairly easy to develop any person in the news into a cut-paper character.

2. Create a children's book. This technique makes great fairytale characters, yet maintains the simplified line structure that children relate to.
3. Web graphics. Because these graphics are based on 256 colors (or less), they translate very well to the Web, and download quickly.

The caricature varieties that you can create with this and related techniques are endless. If this tutorial has helped you develop your own version of a cut-paper character, send it to Amazing so others can see your endeavors as well. Have fun.

•AC•



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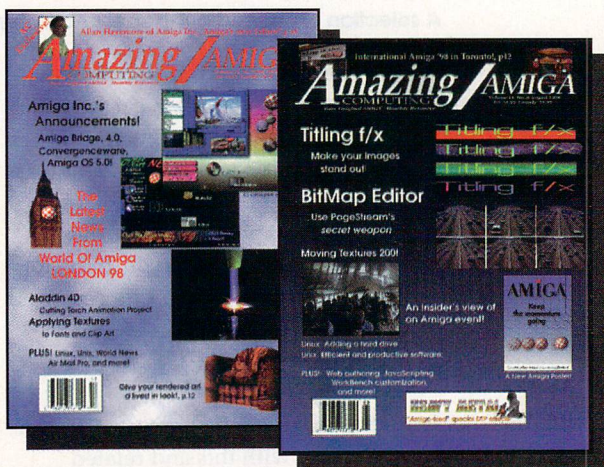
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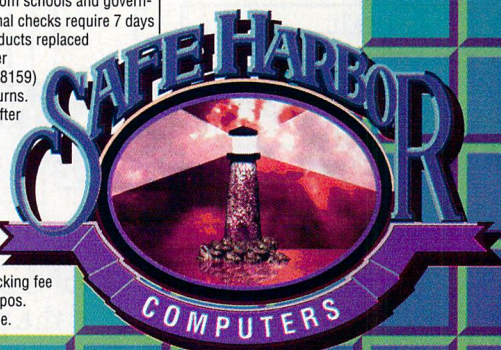
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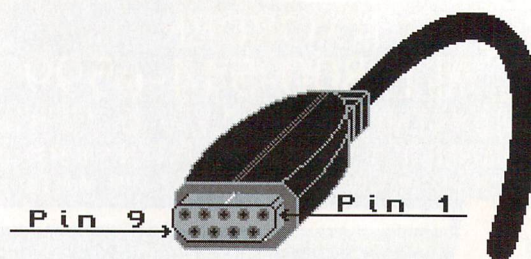
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# Alternative Joy On The Amiga

Replace that old Joystick  
with one of those fancy new  
controllers.

by George M. McDonald



Remember that your  
contacts are reversed  
on the plug

Are you tired of playing your best games with that prehistoric joystick? Lets face it that old stick is no joy. Ever wanted to use a SEGA or Nintendo pad on your Amiga? Well then this article is for you. Even if you can't tell the difference between a diode and a doorstop, all you need is a little patience some perseverance and the following-

## Equipment:

Soldering iron	To melt the solder
Solder	Holds the wires in place
Wire cutters	Cuts the wire =')
Longnose pliers	Holds hot parts
Wire	Carries electrical signals
Multimeter	For peace of mind
Cable (optional)	Nine wire cable with a DB9 female end
Phillips screwdriver	Small-#0
Non-Amiga digital controller	
SEGA Genesis, NES, SNES,	
Playstation	

(Note that the original SEGA pad, the rectangular one with two buttons, is plug & play.)

The main difference between these controllers are the number of fire buttons. The SEGA Genesis has three buttons, NES two, SNES six, and the Playstation has eight. The next thing we have to look at is the cable. Sega has a nine wire cable with a DB9 female end—just what we need. The other controllers require an extra cable—a nine wire DB9 cable. So we are going to focus on the SEGA pad, but the concept is the same for all of the controllers. This project is real easy to do and will ready you for more advanced projects (mouse controller, midi, Audio-sampler, I.R. Keyboard).

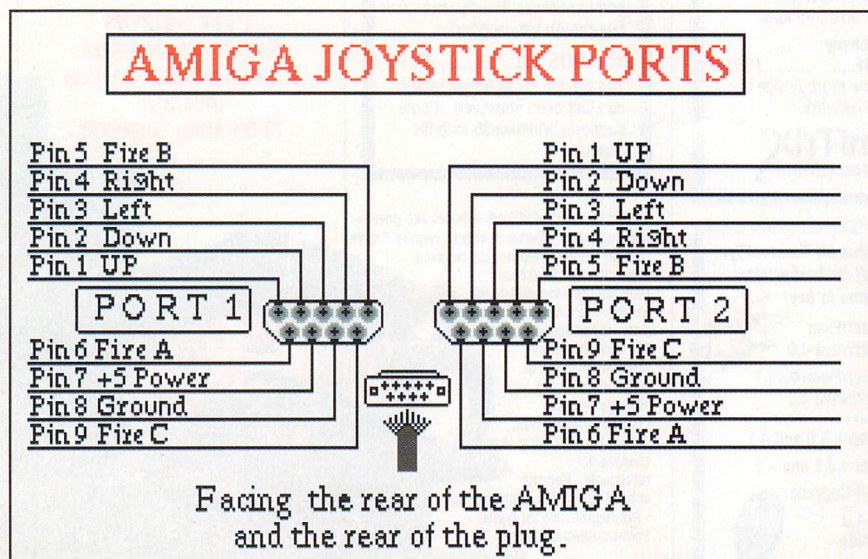
## How It Works

Each action on the control pad closes a circuit (loop) between the ground (pin-8) and the control lines (pins 1,2,3,4,5,6,9) —WARNING PIN 7 IS +5

**VOLTS POWER IF IT TOUCHES ANYTHING YOU WILL DAMAGE A CHIP OR WORSE.** So when you press up you are actually closing a switch that draws pin 1 to ground, the I/O chips read this and the rest is Amiga magic. There is another type of controller called an analog controller that works with potentiometers like the controller of a radio controlled car. The Amiga can use these but they require an adapter.

## The Process

- Step 1: Open the case by removing the six screws in the back of the control. Lift off the back, then lift out the P.C. Board and wire. Set all other parts aside—don't lose anything!
- Step 2: Next, determine if you have a board-mount or surface-mount type board in the controller. The components go though the board in a Board-mount configuration. Surface-mount components lay on and are bonded to the surface. While board-mount is simple to do surface-mount is a bit of a challenge because of its small size and delicate nature.
- Step 3: Unsolder and remove all the components (except for the cable coming in) by holding the part with the long nosed pliers and melting



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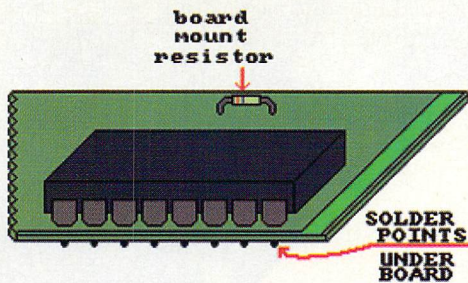


Figure 2a: Board-mount assembly

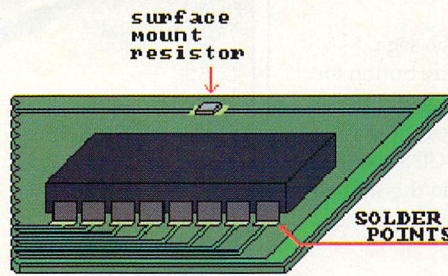


Figure 2b: Surface-mount assembly

the solder. (Caution parts get REALLY hot) Be VERY CAREFUL removing surface mount parts. If you put too much pressure on the parts, the solder points will pull up. If this happens, while you are removing the chip, look for another solder point. If you find one, cut the old point off with a razor blade and find another place to solder to (don't worry there are several solder points left after removing the resistors). If you are curious, the chip is used for the pause button and the resistors change the voltage. We don't need them so out they go.

Step 4: Jumper the wires between the holes left from removing the chip to complete each circuit. Up and down are already connected as they don't go through the chip. Find the switch for left movement and follow the trace to where it entered the chip, cut about 1/8 inch of the plastic insulation off of the wire, and push it through the back of the board (so that the wire comes out on the green side). Solder the wire to the solder point. See Figure 3 for the correct way to solder. Next find pin 3 (the pin for left movement). Remember that the contacts are reversed on the plug.

Step 5: Using the multitester find where the line is soldered to the board and follow it to where it entered the chip. Cut the wire about 1/4 to 1/2 inch longer than needed with the diagonal cutters. Then strip off enough insulation to make the wire lay flat on the bottom of the board. Solder and clip off the loose end. Now, if you are doing a surface mount, you have to use a single strand of wire. Cut a piece of wire 1/2 inch longer than you need. Pull the insulation off by grabbing the wire with the longnose pliers and pulling the insulation with your hand. Save the insulation and pull off a single strand of wire. Lay one end on a solder point (shiny squares on the surface of the board). Cut a piece of insulation to fit between the two points and slide the insulation back over the wire. Then solder the second point and trim the loose end. Repeat for the remaining contacts.

Step 6: Testing the pad. This is a very important step - DON'T SKIP IT. Using the multimeter on the ohm setting, test each line from the plug to the contact on the board. When the circuit is closed, the needle will move across the meter. You can test this by touching the probes together. Each line should only register one action (example: pin 8 ground, pin 1 forward,

## Tool List

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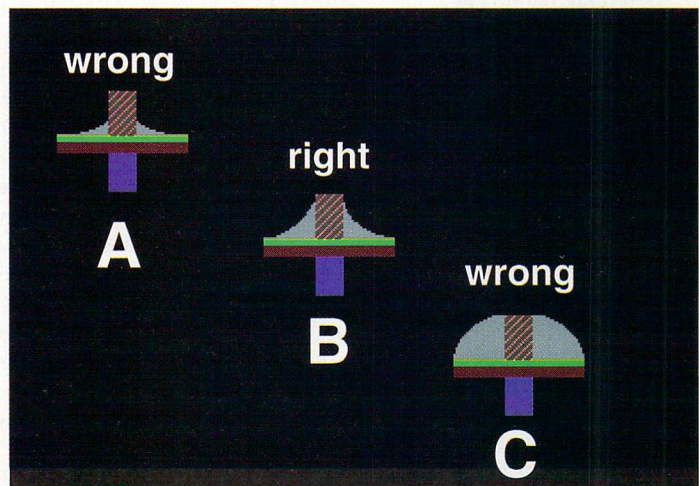


Figure 3: The correct way to solder a connection.

etc.) except pin 7 which is power and should be isolated (no connection other than where it enters the board). In order to reach the contact inside the plug, you have to put a small piece of bare wire in the hole that is being tested. If you find more than one contact per line, you have to look carefully at the board. There will be a solder bridge (a small piece of solder across two or more points). Remove it with the soldering iron.

Step 7: Put it back together and retest. For this final test connect the multimeter between contact 8 and each of the other contacts in the plug. (Example: pin 8 and pin 1 the meter needle should only move when you press up.) This is best done by putting a small piece of wire in the hole and then putting an alligator lead between the wire and the probe (so you can use your hands to operate the pad).



## Special Note:

The start button on the sega controller makes a good fire button for kids. Just add it to the circuit at FIRE A

This modification has not been tested on either CDTV or CD32 configurations. Please be careful in this and all projects. Remember—proceed at your own risk.

## After This

After you do this project you should have the understanding of how the Amiga controllers work. This provides a good background to later modify any digital controller to your needs. Good luck and happy computing.

## Furthermore

You can purchase a modified SEGA pad as described for \$25 US. Price includes shipping & handling (US only out of US send letter or e-mail). All products carry a 90 day warranty, PD and hardware catalog-\$2 US

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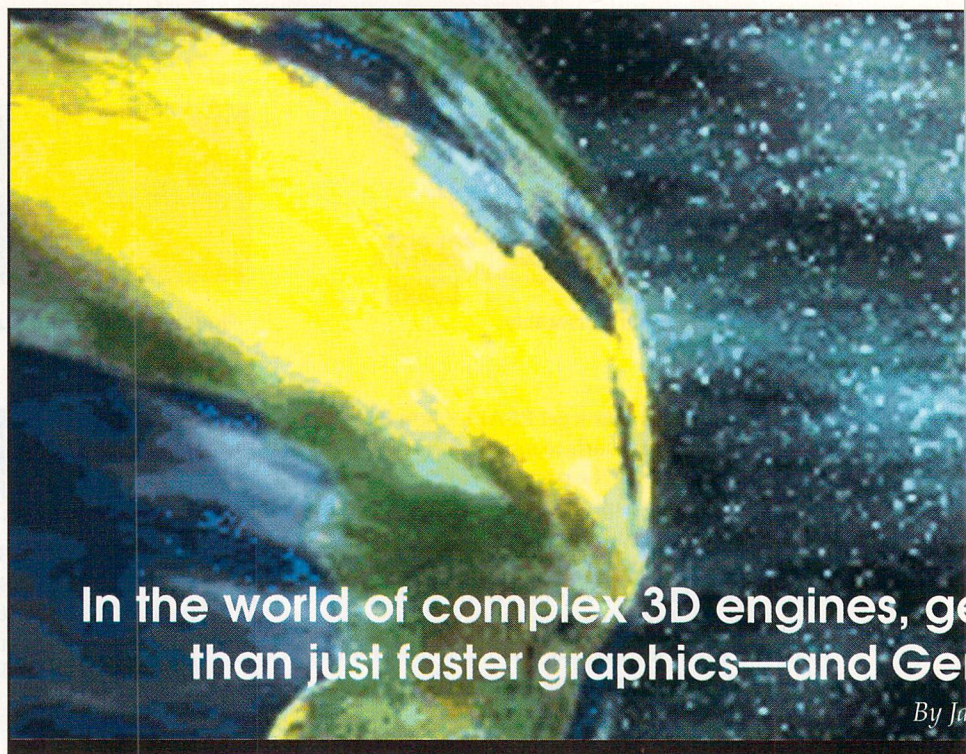
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•AC•



Genetic Species certainly has its work cut out for itself. Let's face it, with the game appearing in the wake of one of the biggest PC conversions the Amiga has ever seen, the comparisons to Quake are inevitable. However, I felt it unjust to judge a game with the mentality that the development of this genre should be a competition to simply achieve a more complex 3D engine. Sure, it may add to the gameplay in some ways, but there are so many other elements that contribute to a satisfying gaming experience. With this in mind I attempted to clear my head of all thoughts of 3D monsters and high-rise ambushes and sat down to play Genetic Species.

The scene is set with a 200MB rendered intro that is actually quite dull, but bearable because of the high graphical quality. The game takes place in the 23rd century with you assuming the role of a "bioshifter" ordered to retrieve information about a dangerous situation arising in a space complex orbiting the moon. Well, actually you assume many roles throughout the game.

These "bioshifters" are mobile devices capable of taking control of almost any entity they encounter. This is much more than just a gimmick, there are many sections of the game that require you to take over commanders, scientists, or security officers in order to perform certain tasks. That's right, there is more to this game than flipping switches and

blasting people. Each level also contains a mission that must be completed. To accomplish this, there are various submissions that combine to allow you to progress to the next level.

This is not to say that there isn't an adequate amount of death and destruction. A vast number of weapons are at your disposal, all varying in speed and power. However, only three objects can be carried at one time. This can be frustrating and a tad confusing since much of your time can be spent relocating things you wanted but couldn't carry. It probably would have been more convenient to separate the weapons from objects. There's nothing worse than confronting an enemy, prepared to blast them with your rocket launcher, and pulling out a key. Maybe if you could stab them with it this wouldn't be such a problem.

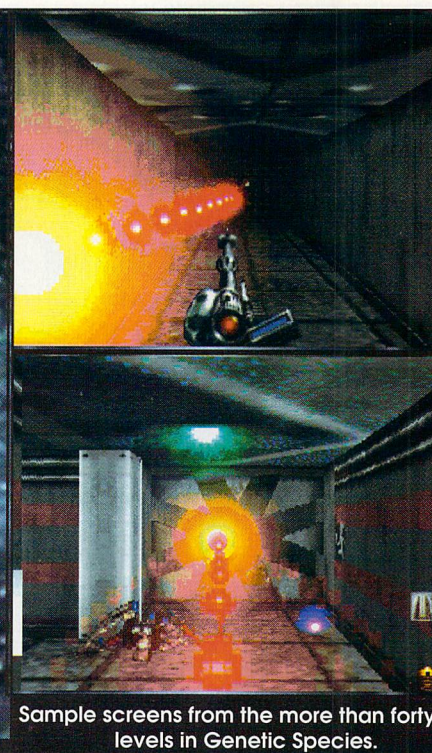
One of the best elements of the game is the level of artificial intelligence the various inhabitants of the space station possess. There is still a sufficient amount of development to be done before the skill of a human player can be incorporated, but Genetic Species has definitely brought the enemies' thought process to a level above most of the games of this type. For starters, enemies can open doors, and won't hesitate to chase you if they feel it is necessary. They often hide beside doorways and ambush you as you approach, though you can usually see





ing a great game to market takes more  
ic Species delivers that and more!

derick



Sample screens from the more than forty levels in Genetic Species.

their guns sticking out and prepare yourself. Also it's nice to track down a wounded, fleeing enemy for once, instead of vise versa. Just be careful if you corner them, as some tend to get slightly nasty in such a situation.

Visually the game is generally excellent. Some of the human enemies are a little odd looking in places, but this is more a limitation of rendering them rather than drawing or digitizing. The game moves at an exceptional frame rate and there are many options to modify it to your computer's specs. It seems to adapt itself to your system in some ways by adjusting the lighting and sound according to your memory and speed.

The sound just about matches the graphics in quality with all the usual gun shots and explosions, along with a nice sprinkling of speech and enemy effects. It is wise to listen carefully for the sound of face huggers scurrying around before you decide to blow a hole in that door and flood the corridor with them. Clues like this can greatly reduce health loss and frustration. There are also eight CD tracks accompanying the game. Though they don't always seem to fit with the action, they still add to the atmosphere which can be quite eerie in spots.

All of these factors contribute to a fine game that is polished and highly playable. It may not appeal to those who are just looking for a quick few minutes of annihilation, though. The mission-

based levels and the fact that you have to find one of the few save spots scattered about the area if you want to continue your progress later may hinder some action fans. Besides, the way the enemies simply fall over when they die is not nearly as fulfilling as the exploding, bloody mess that some other anonymous games offer.

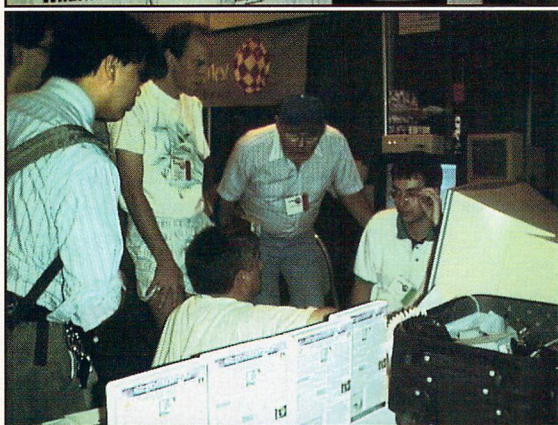
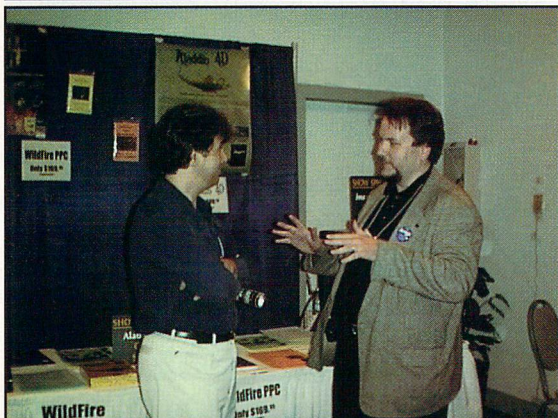
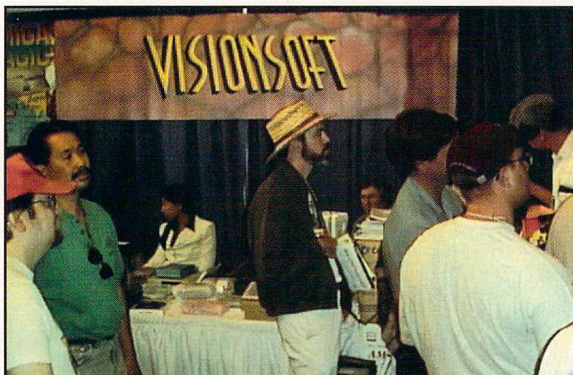
However, if you are looking for a game that will keep you intrigued for hours and present a unique challenge from level to level, Genetic Species will undoubtedly leave you satisfied. If companies such as Vulcan continue to release software of this caliber, the Amiga games market is assured a smooth ride into the next century.

•AC•



Murders Row: The Rogues Gallery of Genetic Species Antagonists.





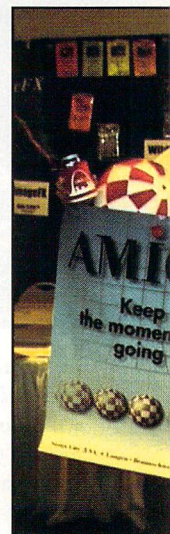
(continued from page 48)

Nova Design, Inc. 1910 Byrd Avenue Suite 204, Richmond VA 23230, Orders 800-462-4369 or 804-282-1157, Phone 804-282-5868 or Fax 804-282-3768.

#### AEMail

AEMail is an Internet Email client for the Amiga which can be used to send and retrieve mail over the Internet. It connects to the Internet to retrieve mail from a POP3 Server and sends mail through an SMTP server. In order to run AEMail does require a TCP/IP stack and it will run on any version of AmigaDOS 2.1 or later. AEMail is shareware. The normal shareware fee is \$30. An unregistered evaluation version is provided on AmiNet and on the AEMail web site at: [www.calweb.com/~jzacahr/](http://www.calweb.com/~jzacahr/) You can register by sending the shareware fee to:

John Zacharias, 1004 Vanguard Drive, Sacramento, CA, 95827.



#### Holger Kruse

Holger Kruse was on hand with Miami 3.0 and Miami Deluxe. Miami 3.0 is an advanced internet access software for the Amiga. Features include a simple configuration compatible with other protocol stacks, built in modules, support for SSL (for safe transmission of sensitive data), and a whole lot more.

Miami Deluxe will be available soon. Miami Deluxe has all the features of Miami plus support for multiple interfaces, routing between interfaces, dial-on-demand, and much more. Contact Holger at [kruse@nordicglobal.com](mailto:kruse@nordicglobal.com) or see [www.nordicglobal.com](http://www.nordicglobal.com).

#### PhotogenicsNG

Paul Nolan was on hand with PhotogenicsNG offering live seminars and on-floor demonstrations. The product is still not available for release (or review), but it appears to offer a variety of tools and options that most Amiga artists want to see as soon as possible. See his page at [www.pnolan.dircon.co.uk](http://www.pnolan.dircon.co.uk).

#### AmigaZone

Harv Laser, of Amiga Zone fame, was on hand to sell memberships at a new reduced price of \$12.95 per month. For more details, look at the write-up on page 10 of this issue. Harv can be reached at: [www.amigazone.com](http://www.amigazone.com)

#### User Groups

Of course the host user group of AmiWest, the Sacramento Amiga Computer Club was on hand to sell memberships and other goodies. They were joined by several other groups. The

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NorthWest Amiga Group was selling internet services, memberships and more. The Gateway Computer Club from St. Louis was also well represented. There was even a group from Surrey, B.C. Canada, PaNorAma Amiga Club, who had set up a small table.

The National Amiga user groups were also well represented with people from the User Group Network, Team Amiga, and the Jay Miner Society. Two groups set up IRC channels for live coverage throughout the event.

### The Banquet

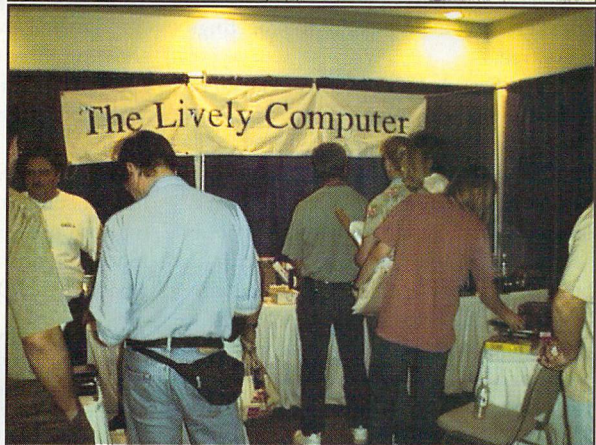
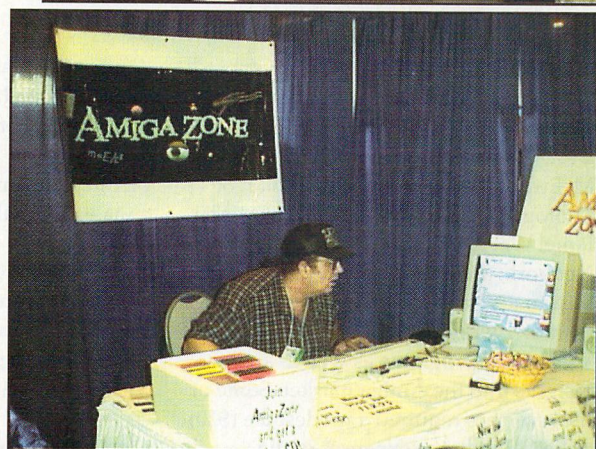
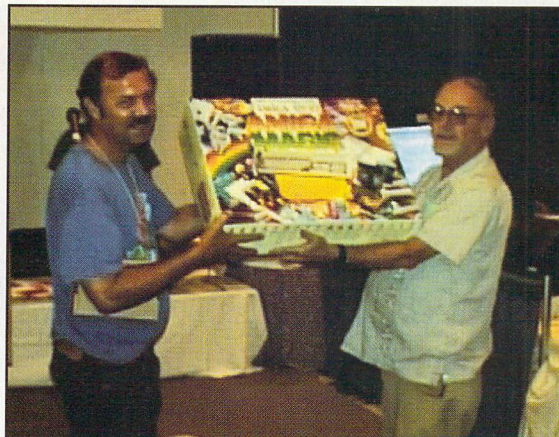
It appears that every event now must be accompanied by a major speech and social event. AmiWest held a banquet Saturday evening which was catered by the hotel. Fortunately for AmiWest, they were able to get both Carl Sassenrath and Bill McEwen to speak. Carl Sassenrath initially said he would cover about ten minutes with his presentation and although he

spoke for nearly an hour, no one noticed the time. Carl talked about the early days of the Amiga. He had brought a set of slides showing R.J. Mical, Jay Miner, and others working on the first Amiga development system. The slides were extremely informative and it helped set up the next speaker, Bill McEwen who spoke on the future direction of the Amiga.

Bill McEwen and Darreck Lisle were the only Amiga Inc. people at the event. Bill began his speech by reading a special letter from Petro Tyschtschenko who had been originally scheduled to speak at the event. Unfortunately, Petro was forced to remain in Germany to attend to Amiga International sales. The letter apologized for his absence and reminded everyone of the need to keep the Amiga going forward.

Bill followed the reading with an hour presentation (much of which was from the original London presentation by Jeff Schindler) of the new Amiga OS program. Bill insisted that, even though the announcement of a partner for the OS still has not been made, the project is still on schedule and the Amiga Bridge system 4.0 will be available for developers in November of this year. The Amiga 5.0 system has also remained on schedule and will be released at the end of 1999.

Bill noted that Amiga Inc. would not be taking on the world of Windows and Microsoft. Amiga Inc. could not win such a fight and he stated that they were not interested in attempting it—yet. Amiga Inc.'s main goal will be to satisfy the niche markets that can utilize the technology and the advantages the Amiga OS will bring to the market. This, coupled with the still undisclosed new chip design, will make the



Amiga a very satisfactory solution to a great deal of the industries needs in the next decade.

### Conclusions

AmiWest should be commended on the work they did for this event. They were able to attract both speakers and attendees to provide an active exchange of ideas.

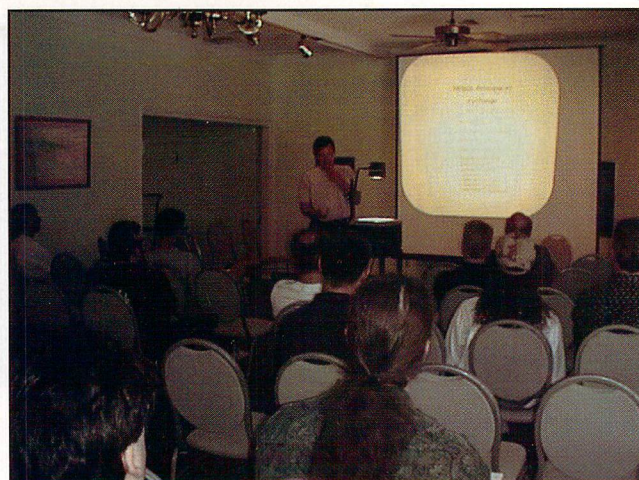
AmiWest was under a lot of pressure to produce a bang up show for their first effort. Every one of the members of the Sacramento Amiga Computer Club deserves credit for the work they did. While it would have been nice to see more exhibitors, the fault did not lie with lack of trying. The SACC gave its all and when all is said and done, they did an admirable job. If they decide to do this again next year, it will be interesting to see what they can do.

•AC•



# AmiWest '98

The first  
AmiWest,  
three days of  
seminars, speeches,  
prizes and more!



AmiWest, July 10-12 in Sacramento, CA, began with a series of seminars and speeches. Kermit Woodall of Nova Design, Carl Sassenrath of REBoL, Bill McEwen of Amiga Inc., Paul Nolan of PhotogenicsNG, Holger Kruse of Miami fame, Wayne Hunt of The User Group Network, and more offered attendees informative and interesting insights into the inner workings of the Amiga and specialized programs as well as some insights into the Amiga market. Some of the seminars required a modest fee (\$20) to help defray the expenses of the speakers, however, most of the meetings were free.

The first day, Bill McEwen, Head of Marketing and Software Evangelism for Amiga Inc., gave an hour speech on his background and the future direction of the Amiga. His main point, in this first session was the hope that people would ask instead of making assumptions or believing rumors. Mr. McEwen's email address is [billm@amigainc.com](mailto:billm@amigainc.com) and he encouraged anyone with questions to write him and, hopefully, he can get the right answers.

## Exhibitors

Although it had been four years since the last Amiga show on the West coast, the exhibitor list for AmiWest 98 was small. However, the spirit was high and the exhibitors that were there for the Saturday and Sunday exhibition were treated to an exuberant crowd. Attendance figures were not available at press time, however, over 500 tickets were sold by Saturday afternoon and additional tickets had to be printed.

### Brain Technologies Co.

Brain Technologies Co., is a local Sacramento software developer for the

Amiga. Brain's president, Branko M. Carija was on hand to demonstrate their educational software package "Mr. Robot's Speak 'n Spell". With over 1000 pictures, the program uses your choice of a male or female robot tutor to help children 6 and up expand their vocabulary. Through the use of animation, sound, and music, the student travels through 200 levels of play.

*Brain Technologies Co., P.O. Box 215147, Sacramento, CA 95821. Tel: 916-482-9457.*

### Finale Development, Inc.

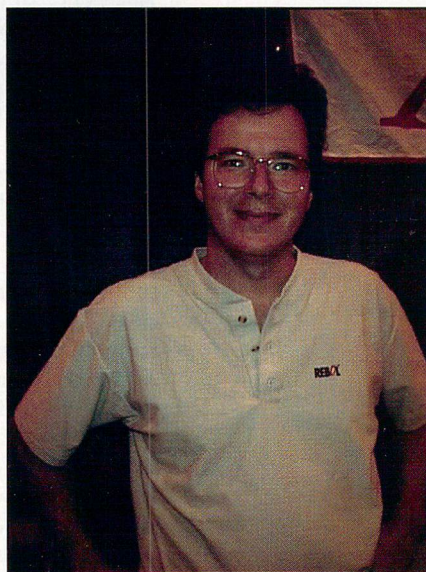
Finale Development, Inc. was showing three of their products at the show. The first is a product called Voodoo, a multimedia E-mail manager for the Amiga. Features include: Drag and Drop, Internal MIME display, header scrolling, the original PGP E-mailer, better client compatibility and more. Voodoo requires an Amiga OS 3.0, a hard drive, OS3.1 and 3MB RAM is

recommended. The second is titled New York which is an online news client for the Amiga. New York boasts trouble free access to Usenet newsgroups. New York can put the user in command of their newsgroups by representing them with a graphical, hierarchical tree that the user can manipulate to join and un-join groups. It also requires an Amiga OS3.x. A hard drive with 4 MB RAM is recommended. Thirdly was a product entitled DigitalQuill, a text editor for the Amiga. DigitalQuill requires an Amiga OS 2.1 or later. A hard drive and 2 MB RAM are recommended. The above products have an SRP of \$39.95 each.

*Finale Development, Inc. P O Box 6905, West Palm Beach FL, 33405, Tel: 203-235-7518, Website: [www.finale-dev.com](http://www.finale-dev.com)*

### Nova Design, Inc.

Nova Design, Inc. was busy showing their Wildfire title. Wildfire is a new animation sequencing, 3D effects, transitions and animation package. It can be compared to SGI Flint or Flame systems and is capable of amazing 3D effects by mapping video sequences into Wildfire's storyboard animation sequencing system. Wildfire is an open development platform with complete plug-in development information and a full ARexx interface (with over 400 commands). The SRP for a standard Amiga 68k series with a 68020 or better is \$149.95 and for the PowerPC is only \$199.95. Nova was also showing their ImageFX 3.0. ImageFX combines painting, image file format conversion, image processing, and special effects. Aladdin 4D was also shown. Aladdin 4D is the premiere product for animation, modeling, and rendering. It carries an SRP of \$349.95.



Amiga Pioneer: Carl Sassenrath of REBoL.

(continued on page 46)



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CYBERSTORM PPC w/233 MHz PowerPC 604e, w/0 68k Companion CPU	\$858.00
(68060/50 CPU \$199.00 68040/25 CPU \$29.00)	

**PowerUP Accelerator boards for Amiga 1200(T) with 68k Companion CPU**

BLIZZARD 603ePPC w/160MHz with 68040/25 CPU with SCSI.....	\$464.50
BLIZZARD 603ePPC w/200MHz with 68040/25 CPU with SCSI.....	\$541.00
BLIZZARD 603ePPC w/240MHz with 68040/25 CPU with SCSI.....	\$627.00
BLIZZARD 603ePPC w/160MHz with 68060/50 CPU with SCSI.....	\$869.00
BLIZZARD 603ePPC w/200MHz with 68060/50 CPU with SCSI.....	\$890.00
BLIZZARD 603ePPC w/240MHz with 68060/50 CPU with SCSI.....	\$962.00

NOTE: Price on any of the above Blizzard PPC's without SCSI deduct \$70.00

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Zip to Simm adapter (For the A3000) holds up to 16 megs - \$69.95

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A1200 1/2 meg memory/surface mounted (424260-80) 2 megs-standard.....	\$6.25
CD 32 motherboard 1/2 meg/surface mounted 2 megs-standard.....	\$6.15
1 x 1 DIP.....	\$2.00
1 x 1-70ns Page Dip.....	\$2.30
1 x 4-70 ns Static Column Zip (A3000 Fast RAM).....	\$4.50
1 x 4-70ns Page Zip (A3000 Fast RAM/ Bridge Board RAM) For Rittner Board, Bridge Board, Octagon Board, Supra 500 RX, Alpha Ram 500.....	\$5.85
1 x 4-80ns Page DIP.....	\$6.75
256 x 4-100ns DIP.....	\$2.50
256 x 4-80ns Page DIP (A3000DT Chip RAM).....	\$3.50
246 x 4-70ns Page DIP.....	\$2.75
256 x 4-80ns Page ZIP (A3000T Chip RAM).....	\$3.75
1 x 32-60ns SIMM, 4 Meg.....	\$10.65
2 x 32-60 ns SIMM, 8 Meg.....	\$19.60

4 x 32-60ns SIMM - 16 meg.....	\$29.95
8 x 32-60ns SIMM -32 meg.....	\$49.95
16 x 32-60ns SIMM - 64 meg.....	\$199.00
1 x 8-70ns SIMM.....	\$9.50
1 x 9-70ns SIMM.....	\$9.75
4 x 8-60ns SIMM.....	\$19.95
4 x 8-70ns SIMM.....	\$18.80
4 x 9-70ns SIMM.....	\$19.95
GVP32-bit 4 meg SIMM A530 Turbo Use with 68030 accelerators, including G-Force 040 A2000 and G-Force 040 A4000.....	\$44.50
GVP 32-bit 16 meg SIMM A530 Turbo Use with 68030 and 68040 accelerators, including G-Force 040 A2000 and G-Force 040 A4000.....	\$108.50
2 meg SIMM for A4000 - Chip RAM.....	\$23.75
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